

Monitoring and Evaluation Guidelines

Technical Cooperation Projects



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LIST OF ACRONYMS

CP	Counterpart
DAC	Development Assistance Committee
DTM	Designated Team Member
FMM	Field monitoring mission
IAEA	International Atomic Energy Agency
IFAD	International Fund for Agricultural Development
LFA	Logical framework approach
LFM	Logical Framework Matrix
M&E	Monitoring and evaluation
M&EM	Monitoring and evaluation matrix
MoV	Means of Verification
MS	Member State
NLA	National Liaison Assistant
NLO	National Liaison Officer
OECD	Organisation for Economic Co-operation and Development
OIOS	Office of Internal Oversight Services
PCMF	Programme Cycle Management Framework
PMA	Programme Management Assistant
PMO	Programme Management Officer
PPAR	Project Progress Assessment Report
RASIMS	Radiation Safety Information Management System
RD	Regional Division
SEPO	Successes, failures, potentials and obstacles
SWOT	Strengths, weaknesses, opportunities and threats
TC	Technical cooperation
TCPC	Division of Programme Support and Coordination
TCQAS	Technical Cooperation Quality Assurance Section
TD	Technical Department
ToR	Terms of reference
TO	Technical Officer
WFP	World Food Programme (of the United Nations)

1. INTRODUCTION

1.1. PURPOSE AND AUDIENCE OF THE MANUAL

This document supplements other guidelines and manuals already developed in the framework of the technical cooperation (TC) programme¹ of IAEA. It aims to clarify concepts and scope, and to provide guidance and tools for results monitoring and evaluation of TC projects.

The counterparts² (CPs) of TC projects are the primary audience targeted by the manual. It will help counterparts to better implement, monitor and self-evaluate their projects and, ultimately, to better demonstrate accomplishments in contributing to the achievement of Member State development goals, as stipulated in the IAEA Medium Term Strategy 2012-2017 (p.3):

“The Agency will enhance its role in promoting the advantages of nuclear technology and applications where they have an added value for addressing basic human and socio-economic development needs and in promoting capacity building in Member States. Activities in human health, cancer treatment, food security, water resource management, industrial applications and environmental monitoring will contribute towards the achievement of the Millennium Development Goals and any follow-up initiative”.

National Liaison Officers (NLOs) and Agency staff members involved in the delivery of TC programme are an important secondary audience for the manual. It is expected that the manual will contribute to enhancing their knowledge and skills in monitoring TC projects and also backstopping the respective CPs.

Finally, the manual is intended for all other TC programme stakeholders. It will improve understanding and knowledge for monitoring and evaluation within the TC programme context.

1.2. FEATURES OF THE IAEA’S TECHNICAL COOPERATION PROGRAMME

The IAEA’s TC programme is the main mechanism through which the IAEA helps Member States to build, strengthen and maintain capacities in the safe, peaceful and secure use of nuclear technology in support of sustainable socioeconomic development. Key areas of intervention include human health, agriculture and food security, water and environment, energy planning and nuclear safety and security.

¹ The following documents can be mentioned:

- Designing IAEA Technical Cooperation Projects using the Logical Framework Approach
- TC Programme Quality Criteria
- Roles and responsibilities in the formulation of the technical cooperation programme
- Policy for Projects (National, Regional and Inter-Regional)
- TC Programme Planning and Design Glossary

See <http://pcmf.iaea.org> for more details

² According to the TC glossary, the CP is an institution or individual in the Member State that manages the project and thus plays a primary role in project planning and implementation.

The design and management of the TC programme is guided by various IAEA policy documents. Key documents include³:

- a) The IAEA Statute;
- b) The Revised Guiding Principles and General Operating Rules to Govern the Provision of Technical Assistance by the Agency (INFCIRC/267);
- c) The IAEA Medium Term Strategy 2012-2017;
- d) The Technical Cooperation Strategy: The 2002 Review (GOV/INF/2002/8/Mod1) (TCS);
- e) The Revised Supplementary Agreement Concerning the Provision of Technical Assistance (RSA);
- f) General Conference TC resolutions and Board of Governors decisions.

Various key principles are derived from these policy documents, which guide how TC activities are designed and managed. The TC programme is developed according to the principle of shared responsibility by the Member State and the Secretariat, with the leading role taken by the country.

The programme is needs driven and is developed through a consultative process with all programme stakeholders to identify development needs, gaps and priorities where nuclear technology has a competitive advantage. National projects are designed by the counterparts; regional projects are designed by a lead country selected from among the Member States of a region.

The Technical Co-operation Strategy: “The 2002 Review (GOV/INF/2002/8/Mod.1)” states:

“The technical co-operation (TC) programme of IAEA is part of the Agency’s mandate “to accelerate and enlarge the contribution of atomic energy to peace, health and prosperity throughout the world.” The IAEA’s role under this programme is that of a scientific and technical agency making a discrete but significant contribution to sustainable development goals through the development and transfer of nuclear science and technology. This transfer takes place primarily through the provision of training, expert advice and equipment — designed to build, strengthen and maintain Member State capacity for using nuclear technology in a safe, secure and sustainable manner. Technology transfer is underpinned by the Agency’s technical expertise, quality control capabilities and information networks.”

1.3. STRUCTURE OF THE MANUAL

The manual is divided into three chapters, followed by several Annexes.

Chapter 1 clarifies monitoring and evaluation (M&E) concepts, as well the rationale for undertaking M&E for TC projects. It also presents considerations for M&E within the context of the TC programme.

Chapter 2 describes the Logical framework approach (LFA), the Logical Framework Matrix (LFM) and the results hierarchy. It also presents the M&E Matrix and describes its different elements.

Chapter 3 presents the principles for M&E within the TC context, and introduces the following M&E tools: Project Progress Assessment Report (PPAR), field monitoring missions (FMMs) and Self-Evaluation that are suggested to TC projects.

Concrete examples and/or guidelines on each tool are included in the Annexes.

³ See <http://www.tco.iaea.org/tcdocumentrepository>

2. CONCEPTS AND RATIONALE

Purpose of Chapter 2:

- Clarify the conceptual framework related to monitoring and evaluation (M&E) as well the rationale for undertaking M&E tasks
- Present considerations for M&E within the context of IAEA's TC programme

2.1. BASIC DEFINITIONS

Monitoring is a continuous function to inform the programme or project managers and stakeholders of progress achieved against planned results (outputs, outcome and objectives). Data on specific, pre-determined indicators is systematically collected and analysed to track actual programme or project performance for management decision making (IAEA-TC Glossary).

Monitoring generally involves collecting and analysing data on implementation processes, strategies and results.

Other definitions in the literature⁴:

“Monitoring is a continuing function that uses systematic collection of data on specified indicators to provide management and the main stakeholders of an on-going development intervention with indications of the extent of progress and achievement of objectives and progress in the use of allocated funds.” (Organisation for Economic Co-operation and Development - Development Assistance Committee (OECD-DAC) expert group, 2002-2008)

“Monitoring can be defined as the on-going process by which stakeholders obtain regular feedback on the progress being made towards achieving their goals and objectives.” (UNDP Handbook on Planning, Monitoring and Evaluation for Development Results, 2009)

“Monitoring is defined as the systematic and continuous collecting, analysing and using of information for the purpose of management and decision-making. The purpose of monitoring is to achieve efficient and effective performance of an operation. Monitoring provides an ‘early warning system’, which allows for timely and appropriate intervention if a project is not adhering to the plan.” (European Commission, 2008)

Evaluation is an objective, independent and systematic examination of the extent to which a programme or project has achieved (or is achieving) over time its stated objective and, therefore, is meeting the needs and priorities of Member States. Evaluation assesses the efficiency, effectiveness, relevance, impact, and sustainability of a programme or project (IAEA-TC Glossary).

Other definitions in the literature:

“Evaluation is the systematic and objective assessment of an on-going or completed project, programme or policy, its design, implementation and results.” (OECD–DAC expert group)

“An evaluation is an assessment, as systematic and impartial as possible, of an activity, project, programme, strategy, policy, topic, theme, sector, operational area, institutional performance, etc. It focuses on expected

⁴ Additional definitions are provided for the purpose of comparison.

and achieved accomplishments, examining the results chain, processes, contextual factors and causality, in order to understand achievements or the lack thereof. It aims at determining the relevance, impact, effectiveness, efficiency and sustainability of the interventions and contributions of the organizations of the UN system". (UN Norms for Evaluation, 2005)

An **independent evaluation** uses rigorous standards, and must be conducted by persons or entities independent of those who designed and implemented the programme or project.

An evaluation can be formative (e.g. midterm evaluation) or summative (e.g. final evaluation and impact evaluation). Evaluation seeks to provide information that is credible and useful, enabling the incorporation of lessons to learn into the decision-making process of the organizations of the UN system and those of Member States.

2.2. DIFFERENCE BETWEEN MONITORING AND EVALUATION

The terms 'monitoring' and 'evaluation' refer to two different functions.

Table 1 presents a comparison between the two. There are important differences when considering frequency, purpose, focus, participants and reporting.

TABLE 1. COMPARISON OF MONITORING AND EVALUATION

	Monitoring	Evaluation
Frequency	Continuously throughout the project life time	At a given point in time, e.g. end of project, mid-term, ex-post or change of phase
Basic Purpose	Steer the project; provide timely information on progress made	Assess and provide judgement on the performance; learn from past to improve future programming
Focus	Collecting and analysing factual information about activities, outputs, (without forgetting outcome) and the processes	Assess outputs, outcome and impact; and quality of the design, project implementation and context
Participants	Project staff, project end users	External evaluators, project staff, end users, donors and other stakeholders
Reporting to	Programme managers, project staff, primary stakeholders, funding agency	Programme managers, project staff, primary stakeholders, funding agency and policy-makers

2.3. MONITORING & EVALUATION CRITERIA

There are five criteria to take into consideration in relation to monitoring and evaluation. These are: relevance, effectiveness, efficiency, impact and sustainability (OECD-DAC Principles and Standards).

Table 2 presents these criteria, their definitions according to the OECD-DAC glossary, and a sample of questions in relation to each.

TABLE 2. MONITORING AND EVALUATION CRITERIA

Criteria and definition	Sample of questions that can be asked
<p>Relevance: The extent to which the objectives of a development intervention are consistent with beneficiaries' requirements, country needs, global priorities and partner and donor policies.</p>	<ul style="list-style-type: none"> • Is/was the project the right project given the situation? • Does the project address real problems and the roots/causes? • Does/did it deal with the right target group? • Is/was it consistent with existing (donor/government) policies?
<p>Effectiveness: The extent to which the development intervention's objectives were achieved, or are expected to be achieved, taking into account their relative importance.</p>	<ul style="list-style-type: none"> • To what extent are/were outputs and outcome achieved? • Is/was the intervention logic (see § 2.1.2) well designed and feasible?
<p>Efficiency: A measure of how economically resources/inputs (funds, expertise, time, etc.) are converted to results.</p>	<ul style="list-style-type: none"> • Are/were resources used in the best possible way? • What can/could be done differently to improve the implementation at an acceptable/lower cost?
<p>Impact: Positive and negative, primary and secondary long term effects produced by a development intervention, directly or indirectly, intended or unintended.</p>	<ul style="list-style-type: none"> • To what extent has the project contributed towards the overall (long- term) objective? • What unexpected positive or negative consequences did the project produces? And the reasons for that?
<p>Sustainability: The continuation of benefits from a development intervention after major development assistance has been completed.</p>	<ul style="list-style-type: none"> • To what extent one can expect the change/new state to exist in the future without external inputs?

2.4. RATIONALE FOR MONITORING AND EVALUATION

Reasons for monitoring and evaluating projects include: accountability, performance improvement, learning, communication and empowerment of primary stakeholders.

Accountability

Projects are implemented by staff on behalf of different stakeholders, e.g. donors, government, hosting organization and beneficiaries. Therefore, it is important that project implementers are held responsible for their actions, i.e. they are accountable to all stakeholders.

Improving performance

Monitoring identifies the extent to which a project is making progress in producing expected outputs and achieving a desired outcome. Corrective measures can be taken in time to improve project performance. Ongoing monitoring also allows the assessment of whether inputs and resources are being used efficiently.

Learning

Monitoring and evaluation can provide valuable lessons for other projects within the same country or organization. These lessons may be used for the ongoing cycle, or can be applied during the next programming cycle to repeat successes or to avoid failures.

Communication

M&E activities improve the communication between different stakeholders, thus enabling a better understanding of implementation issues and supporting better achievement reporting. In order to make communication effective, a favourable environment for exchange and discussion is essential. Clear and transparent communication mechanisms such as regular meetings, workshops, reporting, and information sharing via internet or printed media should also be established.

Empowerment of stakeholders

M&E creates opportunities for beneficiaries to provide useful feedback to the implementers. Furthermore, the involvement of different stakeholders in the process can increase their motivation and skills for planning and implementing future projects. M&E can thus strengthen the participation of primary and end beneficiaries in decisions about project performance, and therefore increase stakeholder ownership.

2.5. CONSIDERATIONS FOR M&E WITHIN THE TC PROGRAMME

Taking into consideration the particulars of the TC programme as presented in the introductory section, M&E activities are implemented within the TC programme as one single function (including monitoring and self-evaluation), aligned with the structure and responsibilities of the TC Department. The function related to external independent evaluation is the responsibility of the Office of Internal Oversight Services (OIOS) of the IAEA⁵.

⁵ The Office of Internal Oversight Services (OIOS) was established in April 2001 by the Director General to strengthen the Agency's internal oversight services, its ability to ensure management efficiency, programme effectiveness and to enhance accountability. Its functional areas are: Internal Audit, Programme Evaluation, Management Services, and Investigation.

The following objectives are expected to be achieved through M&E implementation within the TC programme:

- a. To increase the **performance and accountability** of TC projects;
- b. To improve **communication and participation** of TC stakeholders;
- c. To enhance **learning and continuous improvement** within the organization;

Figure 1 presents the main M&E processes during the TC project cycle.

More information on the scope of M&E functions is presented in Table 3. The involvement of relevant stakeholders must be ensured at each stage.

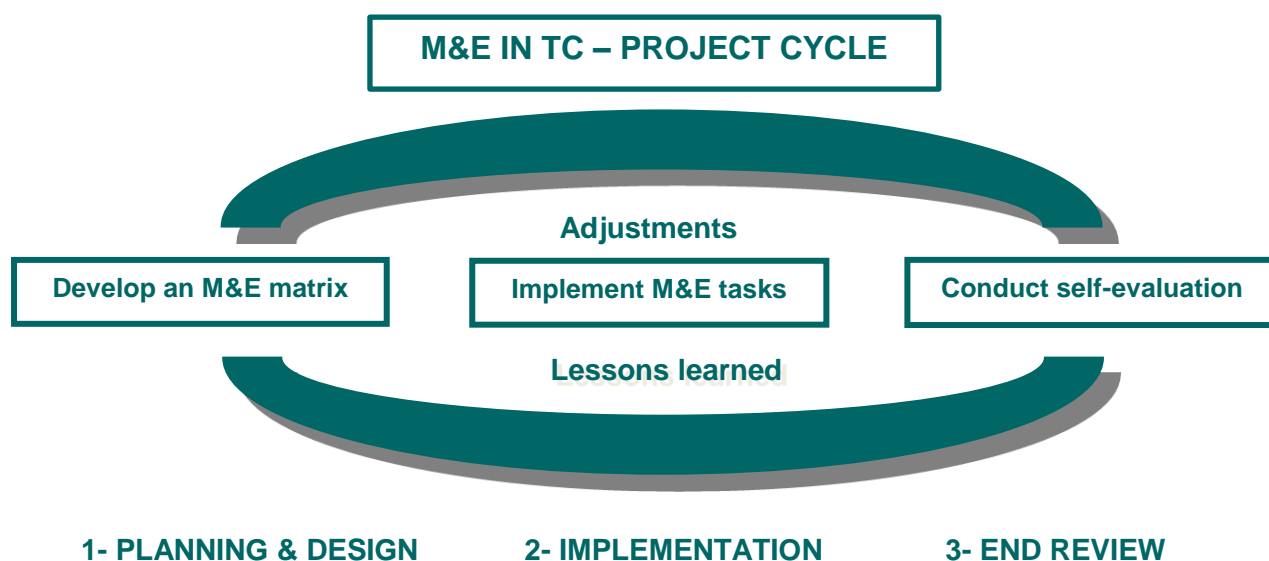


Figure 1: M&E in TC project cycle

The TC programming cycle is divided into three main phases: Planning & Design; Implementation; and End Review⁶. Each stage implies different M&E functions.

The first phase of the TC programming cycle consists of project identification, planning and design. This includes upstream work and the preparation of national, regional and interregional programme notes. These notes give an overview of the national, regional or interregional programme and include project concepts. This is followed by the preparation and design of project documents using the logical framework approach (LFA), and the elaboration of a detailed workplan and budget.

During this first phase, it is essential to consider M&E tasks that will be undertaken later on. This requires the development of an M&E matrix (or plan). It is also necessary at this stage to ensure that TC quality criteria are embedded in the project design⁷.

⁶ See the TC Operations Manual for more details.

⁷ The quality criteria for TC programme/projects are based on the central criterion of the Technical Cooperation Strategy and the logical framework approach. They are: relevance, ownership/commitment, sustainability, effectiveness, efficiency. See PCMF reference desk, <http://pcmf.iaea.org/> for more details.

TABLE 3. SCOPE OF M&E FUNCTION WITHIN THE TC PROGRAMME CONTEXT

Planning and Design	Implementation	Review
<ul style="list-style-type: none"> • Development of an M&E Matrix with M&E tasks to be included in the project workplan • Ensure TC quality criteria are embedded in project design 	<ul style="list-style-type: none"> • Carry out M&E tasks by applying relevant tools and methods • Ensure that quality criteria are applied during the implementation of projects 	<ul style="list-style-type: none"> • Conduct end-project M&E tasks (self-evaluation/ assessment) • Document and disseminate lessons identified for continual improvement

During the implementation phase, intended project results are delivered, resources are managed, and progress is monitored and reported for decision making purposes. At this point, the M&E tasks (defined at the design stage) are carried out as planned. These include information gathering and analysis, preparation of reports and dissemination of information. The need to ensure the application of quality criteria during implementation must also be considered here.

The end of the programming cycle corresponds to the review phase. At this stage, the M&E function includes conducting self-evaluations or self-assessments, and the documentation and dissemination of lessons to be learned⁸. The findings will be used for continual improvement of the TC programme, but also will serve as inputs for independent, external evaluations conducted under the responsibility of the OIOS⁹.

⁸ There is difference between lessons identified and lessons learned (or learnt). The process of M&E implies identifying lessons which should later be learned, i.e. taking actions (or decisions) toward continual improvement.

⁹ The IAEA – OIOS evaluation policy states (§9 and 10): “Agency evaluations fall into two categories: 1) independent evaluations conducted or coordinated by OIOS; and 2) self-assessments carried out by staff involved in the design or implementation of the programme. Although self-assessments do not replace OIOS evaluations, the results of self-assessments will be used as references by OIOS when planning and carrying-out independent evaluations. Management functions and support activities also come within the scope of an evaluation”. See SEC/DIR/122 - OIOS Evaluation Policy and updates to Part III of the IAEA Administrative Manual.

3. PLANNING FOR MONITORING AND EVALUATION

Purpose of Chapter 3:

- Recall notions of logical framework approach (LFA) and result hierarchy
- Explain the linkage between Logical Framework Matrix (LFM) and M&E Matrix
- Describe elements of the M&E Matrix

This module covers the design stage of a TC project and presents M&E issues that must be addressed at this stage. The logical framework approach is the methodology applied in the design of a TC project, and is therefore the starting point. The approach leads to the Logical Framework Matrix (LFM). From the LFM, one can move forward to the M&E matrix in which details needed for M&E purposes are included. The sections below present the process for developing the M&E matrix (for TC projects) and explain the related elements.

3.1. STARTING POINT: THE LOGICAL FRAMEWORK APPROACH (LFA)

The LFA is the methodology adopted and used for the design of TC projects. This is aligned with the results-based management approach applied within the Agency. A capacity building package and related material has been developed specifically for TC projects.

3.1.1. Logical framework approach in summary

The introductory section of the manual 'Designing IAEA Technical Cooperation Projects using the Logical Framework Approach: A Quick Reference' states (p.7):

"The LFA helps stakeholders to think through and analyse the "logic" of a project in a systematic and structured way, first by conducting a detailed analysis of a number of elements, and secondly by relating the results of these analyses to each other and to the overall project objective. This ensures a sound project proposal and a high quality project. The LFA provides a project structure in which major components are explicitly and clearly interrelated, and interrelationships clarified. The LFA plays a particularly critical role in project planning and design, but it can also be used throughout the project cycle, including during monitoring and evaluation.

The LFA is essentially a sequence of analytical steps, comprising a situation analysis that reviews project context and relevance, a stakeholder analysis that covers counterpart mandate and vision, end-users and any other organizations or group or institution having an interest or being affected by the project, a problem analysis that examines the problem in detail from the perspective of different stakeholders, and finally an objectives analysis where the project team decides on the scope of the project. On the basis of these analyses, the project team constructs a Logical Framework Matrix (LFM) that summarizes the project, and shows the logical linkages between the project elements. This is an iterative process of testing, review and validation that then continues with the preparation of a suitable work plan".

The typical LFM model used for TC projects is presented in Table 4. Concrete examples are presented in Annexes A and C.

TABLE 4. TYPICAL LFM FOR TC PROJECTS

Design Elements	Narrative Description	Indicators	Means of Verification	Assumptions
Overall Objective				
Outcome (Specific Project Objective)				
Outputs	1. 2. 3. ...			
Activities	1.1 1.2 1.3 2.1 2.2 2.3 3.1 3.2 3.3 ...			

3.1.2. Results Chain/Hierarchy of Results

The primary purpose of M&E is to track the performance of a project, i.e. the degree to which it is implemented as planned and how successfully it achieves its intended results.

The relationship between each result level is described in the LFM and is also known as the Result Chain (or Hierarchy of Results). When designing the project, it is effective to start by defining the overall objective to which the project will contribute and defining the expected outcome (the project specific objective). Then the outputs needed to achieve the outcome are defined, and thereafter the activities and inputs.

When it comes to project implementation, one starts by putting inputs and resources in place, and these are converted into activities: activities implemented will produce outputs, and the outputs achieved will, in turn, result in the desired outcome. This logic is known as a Result Chain or the Hierarchy of Results (see Figure 2 and Figure 3). It is necessary that the logic of the project design is clear and straightforward.

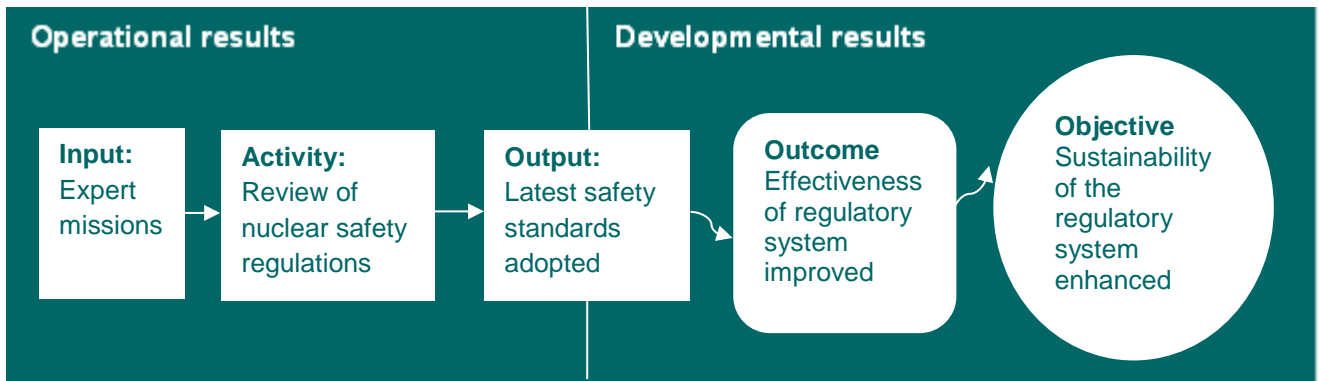


Figure 2: Example of Result Chain



Figure 3: Example of results hierarchy

A result is a change that can be observed, described and measured in some way, and for which the cause can be identified. Results may a) appear within a short time or take years to be fully realized; b) be planned or unforeseen; c) be either positive or negative; d) be reflected at the level of individuals, groups of individuals, institutions, or society.

Different levels of results exist. At the operational level there are immediate results or '**Outputs**'; at the developmental level, there are medium term results or '**Outcomes**' (project specific objective) and long term result or '**Impact**' (overall objective).

Questions for checking the Design Logic:

- Are inputs necessary and sufficient for activities to take place?
- Are activities necessary and sufficient to achieve outputs?
- Are all outputs necessary? And are all output assumptions necessary and sufficient to achieve the outcome?
- Are the outcome plus related assumptions necessary and sufficient to achieve the expected objective?

3.1.3. From logical framework approach to monitoring and evaluation Matrix

Once the LFM has been prepared and the design logic verified, the monitoring and evaluation matrix (M&EM) can be developed. This should be discussed and agreed among key stakeholders toward the end of the planning and design phase. This is essential if M&E is to be systematically included in the project implementation stage.

The M&E matrix outlines concrete steps for the monitoring plan, by providing the what, how, when and who. It includes:

- a. What is to be monitored? i.e. Indicators;
- b. How will information be obtained to monitor them? i.e. Data collection methods (these imply M&E tasks);
- c. Who is responsible for the implementation of M&E tasks? i.e. Responsibility;
- d. When are the proposed tasks due? i.e. Schedule or timing;

In addition, relevant risks should be considered seriously, anticipated, and included in the M&EM, as well as the resources needed (if necessary).

Table 5 is an example of an M&E matrix. This is a simplified **result-oriented matrix**¹⁰ that can be applied easily to TC projects. The starting point is the LFM, with some changes introduced in the columns and rows.

Vertically (in the columns), the core elements are: performance indicators (with baseline and target); data collection methods/M&E tasks; responsibility for M&E tasks; timeframe and risks¹¹.

Horizontally (in the rows), the activities and inputs are not included. This does not mean that they should not be monitored (see §3.1.3 on how to do this). The overall objective row is included with the narrative; but it is not mandatory to fill in the remaining fields (for IAEA-TC projects). Two other rows are added in relation to the project **Implementation Arrangements & Overall Context**.

Implementation Arrangements refer to the internal (micro) dynamics of operations, including: interactions, service delivery mechanisms, management practices, coordination, and the linkages among these.

The overall **Context** is related to the external (macro) environment of the project, i.e. national budget/resource allocation, policy & legal frameworks, technology development patterns, the physical environment and cultural setting.

¹⁰ The overall objective, as well as other issues is not included due to the small size of TC projects. The format highlights the results at output and outcome levels. More elements can be found in M&E matrices such as: M&E questions, key variables, communication mechanism, budget/resource etc.

¹¹ Please note that in the LFM assumptions are presented in relation to the achievement of output and outcome results. In the M&EM, risks are presented in relation to the implementation of the M&E tasks.

TABLE 5. STRUCTURE OF M&E MATRIX FOR TC PROJECTS

Narrative elements	Performance Indicators (with baseline & target)	Data collection/ M&E tasks	Responsibility for M&E tasks	Schedule or Timeframe	Risks
Overall objective ¹²		-----	-----	-----	-----
Outcome					
Output					
Implementation Arrangements					
Project Context					

Because of their importance, it is essential to monitor the project arrangements and context (see §4.1.4). Only those elements that can have a real impact on the success or failure of the project should be mentioned in the M&EM.

The following sections explain the different elements in the columns in detail. Two examples of M&EMs for a TC project are presented in Annexes B & D.

For most TC projects, the LFM will be the basis for the M&E Matrix. Therefore, key M&E aspects and elements shall be considered when designing the LFM.

3.2. INDICATORS

Indicators are of great importance for M&E. Thus, indicator development is a core step in building the matrix, and this drives all subsequent data collection, analysis, and reporting.

An indicator is a measure of a concept, phenomenon or behaviour. It does not necessarily reflect the entire phenomenon itself, but an aspect of it. An indicator provides evidence that a result has been achieved, or signals that progress is being made towards the achievement of a result.

Indicators enable the measurement of actual achievement against planned or expected results, in terms of quality, quantity, and timeliness. They always include at least one variable. Therefore, indicators can be:

- Quantitative, i.e. have a numerical value (number, percentage or ratio), e.g. number of technicians trained; or

¹² The narrative statement of the overall objective is enough for TC projects. It is not essential to define indicators (with baseline and target) at this level, which corresponds to the long-term impact.

- Qualitative, i.e. reflect perception, judgements or attitudes (e.g. perception of end-users about the project).

3.2.1. Types of indicators

Indicators can be directly or indirectly related to the result they are measuring.

Direct indicators

These indicators are directly related to the subject of interest. This is often the case with operational and more technical subjects. What needs to be monitored can be (and generally is) measured directly.

In the example below (Table 6), it will take some years (even decades) to measure the increase in the life expectancy of cancer patients treated with radiotherapy. For this reason an indirect indicator can be used, assuming that patients successfully treated will enjoy better and longer life.

Indirect indicators

Indirect indicators (or proxy-indicators) refer also to the subject of interest, but not directly. There can be several reasons to formulate indirect indicators:

- The subject of interest cannot be measured directly: this is particularly the case for more qualitative subjects like behavioural change, living conditions, good governance, etc.;
- The subject of analysis can be measured directly, but it is very complex, cumbersome or can take a long time to do so.

The use of an indirect indicator can be more cost-effective than the use of a direct one. For instance, in the TC programme context, scientifically validated monitoring data are not necessary, the purpose being to have reliable/accurate data for management decision making. Therefore, an indirect indicator may represent the right balance between level of reliability of information and the efforts needed to obtain the data.

TABLE 6. DIRECT AND INDIRECT INDICATORS

Concept or Phenomenon	Indicator	
Improved life expectancy for cancer patients	Direct Measurement	Proportion of increase in the life expectancy of cancer patients
	Indirect/Proxy	Proportion of cancer patients treated with radiotherapy that reported no side effects afterwards

The rationality or plausibility of indirect indicators should be ensured so that the relation between the indicator and what is to be monitored (phenomenon/variable) remains relevant.

Simple and complex Indicators

Indicators can be simple or complex. Simple indicators are straightforward and require only a single measurement. For example: number of saliva samples analysed; number of mother-infant participating in the trials; a database is in place.

Complex indicators imply multiple measurements or require different bits of information. They are also called multiple indicators. They can be combined to form an index, e.g. the Human Development Index of UNDP includes: school enrolment, life expectancy and income per capita.

3.2.2. Project performance indicators

A performance indicator is defined as a variable that allows the verification (measurement) of change resulting from an intervention, compared to the prior situation.

For TC projects, performance indicators are defined at least at output and outcome levels. They have to include a baseline and target values to the variable to be measured (see table 7).

TABLE 7. EXAMPLES OF TC PROJECT PERFORMANCE INDICATORS

	Narrative	Indicator		
		Variable	Baseline	Target
Outcome	Enhanced effectiveness of regulatory functions within the country	Proportion of compliance to IAEA safety and security standards	40%	95%
	Improved radiotherapy services for cancer treatment	Number of cancer patients treated using radiotherapy (latest standard)	0	100
		Proportion of patients that received optimal radiation doses	0	100%
Output	Nuclear Regulatory infrastructures in place	Regulatory authority established	0=No	1=Yes
		Legal regulatory framework adopted		
	Dosimetry and radiation protection equipment in use	Number of dosimeters in use	0	10
	Qualified technical staff in place	Number of technicians trained	0	05

A baseline is the value of the indicator before the implementation of the project or activities, while a target is the specific, planned level of result to be achieved within an explicit timeframe. Baselines help project managers and implementers to determine progress in achieving outputs and outcome. They also help identify the extent to which change has happened at each level of result. Lack of baseline data presents challenges for making a decision on the extent to which results (outputs and outcome) are achieved. It also hinders evaluation efforts at a later stage. Therefore, it is important to consider gathering baseline data or to reconstruct the data when designing the M&E matrix.

Targets help project stakeholders to focus on results and motivate counterparts to do their best in ensuring that set targets are met. Targets also help to establish clear expectations. It is essential that key stakeholders are involved in setting the targets for output and outcome indicators. Milestones can be set for achieving targets.

3.2.3. Steps for formulating performance indicators

In order to formulate performance indicators, the following steps are suggested.

- Brainstorm to identify the variable(s) that may provide means to measure the change in line with the result, objective or phenomena. **What and how well?**

This stage may lead to a number of different options. When indirect variables are identified, check on reliability, relevance, sensitivity and feasibility before deciding which one(s) will best serve the monitoring information needs. Cost-effectiveness also needs to be considered for direct indicators and may well be a reason to select indirect indicators.

- Define the magnitude of the change that is to be achieved. **How much?**
- Clarify who or what is affected by the change. Often specific information on who (or what) is necessary. **Who or what?**
- Specify the location where the change will take place (if necessary). **Where?**
- Define the timeframe for the change before it happens. **When?**

Formulated indicators should be **SMART**, i.e. Specific, Measurable, Attainable, Relevant and Time-bound.

Definition of SMART

Specific: Is the indicator specific enough to measure progress towards the results?

Measurable: Is the indicator a reliable and clear measure of results?

Attainable: Are the results for which the indicator seeks to chart progress realistic?

Relevant: Is the indicator relevant to the intended outputs and outcomes?

Time-bound: Are data available at reasonable cost and effort?

See UNDP 2009, Handbook on Planning, Monitoring and Evaluation. p.63

The criteria **CREAM** – i.e. Clear, Relevant, Economic, Adequate and Monitor-able – can also be used.¹³

3.3. DATA COLLECTION/M&E TASKS

In the LFM, the column 'Means of Verification' (MoV) – or sources of information – specifies documents that provide evidence for the measurement or verification of specified indicators. These can be reports of different types, accounting documents, direct observations, laboratory results, etc. In some cases it might be necessary to gather data in order to verify the achievement of performance indicators (outputs and outcome). Therefore, identifying the types of data and how to obtain them is essential for M&E tasks to be carried out.

In relation to the type of data, one can distinguish quantitative versus qualitative data. Quantitative data are generally regarded as being more objective, while qualitative data as more subjective. However, recent debates have concluded that both types of data have subjective and objective characteristics. The fact is, qualitative and quantitative data complement each other, and both should be used for M&E purposes.

¹³ See Imas & Rist 2009, The Road to Results – Designing and Conducting Effective Development Evaluation, The World Bank, p.117

Data can be obtained from either primary or secondary sources. While primary data are those that must be gathered using quantitative and/or qualitative methods, secondary data are those that have already been collected and published. Attributes of quantitative and qualitative data collection methods are presented below. One complements the other. A review of documentation is necessary at the beginning. This is particularly useful in obtaining baseline information and understanding the context in which the project is evolving, and can help to explain whether expected changes are occurring or not and the reasons behind this¹⁴.

3.3.1. Quantitative methods

With quantitative methods, things are either measured or counted, or questions are asked according to a defined questionnaire so that the answers can be coded and analysed numerically.

Quantitative methods help to answer questions such as “who?”, “how much?”, and “how many?”. Where probability sampling is used, statistical analysis will provide precise estimates for study variables, such as: frequencies, averages, ranges, means, and percentages, at a known and quantifiable degree of confidence.

Quantitative methods allow the identification of major differences in the characteristics of (or conditions affecting) a population. They also determine whether there is a statistical relationship between a problem and an apparent cause, and allow generalizing to the larger population based on data from samples. However, they tend to ‘simplify’ the reality.

Examples are:

- Direct measurements
- Observations
- Census/counting
- Questionnaires (quantitative)

Quantitative methods

Strengths

Precise estimates backed by statistical theory; highly valuable for decision-making and advocacy because they are robust and objectively verifiable providing that data are collected and analysed correctly.

Weaknesses

The greatest weakness of the quantitative approach is that it can take human behaviour out of context in a way that removes the event from its real world setting. Factors or variables left out of the data collection instrument are simply not considered in analysis.

3.3.2. Qualitative methods

Qualitative methods help to capture an in-depth picture of a specific issue from a relatively small sample of people. They help to answer questions such as “how?” and “why?”. The focus is on presenting perceptions, judgments, and opinions, and also on explaining meanings, processes and reasons.

¹⁴ Due to their relatively simple nature and small size, TC projects do not need complex data gathering tools and sophisticated analysis.

Qualitative methods are flexible. Questions are asked in an open-ended way and the findings are analysed as data are collected. Data are collected through much more flexible tools and techniques. Research guides and tools are reformulated during the process and new ones may be added. The evaluators/researchers must adapt, using flexibility to probe, while maintaining enough structure to allow systematic analysis of data.

Qualitative methods are intended to explore issues and allow more in-depth examination, but are less generalizable to a broader population and include the risk of superficiality, bias, and errors. They use informal approaches to capture differences and provide a more holistic approach to the reality.

Examples of qualitative methods:

- Focus group discussion
- Strengths, weaknesses, opportunities and threats (SWOT) analysis
- Most Significant Change (MSC)
- Mapping

Qualitative Methods

Strengths

The strengths of using qualitative methods are that they generate rich, detailed data that keep the participants' perspectives intact and provide a context for their behaviour. Respondents provide their own explanations in a participatory exchange with interviewers.

Weaknesses

The weaknesses of using qualitative methods are that data collection and analysis may be labour intensive and time-consuming. As a result the number of respondents to which the method is applied is usually far fewer than for quantitative methods. Another disadvantage is that qualitative methods are often not objectively verifiable.

Some qualitative data gathering methods/tools are described in Annex L.

3.4. FREQUENCY OF AND RESPONSIBILITIES FOR M&E TASKS

3.4.1. Frequency

A number of aspects are important for determining the frequency or intervals of observation:

- Steering needs: How often does a project need information for project steering and accountability? On a monthly or quarterly basis? Or does it suffice to record annually or at even longer intervals?
- Velocity of change: While rainfall or temperature can be constantly monitored, the growth of plants or the establishment of a nuclear power plant (NPP) can be monitored in much longer intervals.
- Availability of resources, both financial and human.

For typical TC projects, observation intervals of six months to a year are sufficient to capture changes in the output indicators. The recording of progress made in relation to outcome indicators may be done simultaneously, but it is highly likely that the information needed may only be available towards the end of, or after, the two-year project cycle.

3.4.2. Responsibilities for monitoring and evaluation tasks

Responsibilities for M&E specify who will be carrying out M&E tasks during project implementation. In the context of the TC programme, the main stakeholders concerned are: counterparts (CPs), Designated Team Members (DTMs), coordinators (for regional projects) and National Liaison Officers (NLOs)/ National Liaison Assistants (NLAs) on one hand, and the IAEA Secretariat, i.e. the TC Quality Assurance Section (TCQAS) of the Division for Programme Support and Coordination (TCPC), the regional Divisions (RDs) through the Programme Management Officers (PMOs), and the technical Departments (TDs) through the Technical Officers (TOs) on the other hand.

Table 8 presents M&E responsibilities by type of stakeholder. These responsibilities are the same for almost all TC projects.

TABLE 8. M&E RESPONSIBILITIES FOR TC PROJECTS

Actors	Roles & Responsibilities
CPs, DTMs, or Coordinators	<ul style="list-style-type: none"> • Design the project and include M&E considerations; • Carry out M&E tasks, i.e. develop and maintain a sound information system to track progress and achievements; • Prepare the Project Progress Assessment Reports (PPARs) and submit them on time; • Organize periodic review meetings on project implementation; • Ensure the quality of M&E information and reports; • Conduct final assessment at the end of the project in order to document and disseminate lessons to be learned.
NLOs/NLAs	<ul style="list-style-type: none"> • Ensure that M&E considerations are included at planning, design and implementation stages; • Ensure that projects are designed in line with TC criteria and standards; • Organize reviews of the country programme; • Ensure preparation and timely submission of PPARs by project CPs; • Oversee the implementation and monitoring of all TC projects within the country.
IAEA RDs/TDs (PMOs and TOs)	<ul style="list-style-type: none"> • Ensure that methods (e.g. LFA) and tools (e.g. PPAR, self-evaluation, etc.) are applied as appropriate, and provide capacity building opportunities for that purpose; • Ensure quality standards at all stages of the project cycle; • Provide technical and operational support to CPs for the implementation of M&E tasks, including the usage of appropriate tools; • Undertake field monitoring missions of TC projects; • Facilitate the identification of lessons to be learned at all stages of the project cycle.

Actors	Roles & Responsibilities
TCPC/TCQAS	<ul style="list-style-type: none"> • Develop tools and methods for M&E of TC projects; • Provide training on M&E tools and methods for TC stakeholders; • Provide technical support to RDs for the application of M&E tools and methods; • Provide assurance of quality standards at all stages of the project cycle; • Undertake field monitoring missions for samples of TC projects.

3.5. RISKS RELATED TO MONITORING AND EVALUATION IMPLEMENTATION

It is important to anticipate external factors that can hamper the implementation of planned M&E activities and events, because the success or failure of the M&E system can strongly depend on them.

At the technical level, risks encompass a lack of capabilities/capacities that can be related to skills and/or human resources. There may be also issues relating to the sensitivity of data to be collected for M&E purposes: this is particularly relevant in some IAEA fields of activity.

At the institutional level, the multiplicity of donor procedures may be a challenge when harmonizing the M&E system. In such a situation, a greater involvement of key stakeholders or actors is needed from the beginning in order to develop the M&E system.

Addressing the challenges of accountability/transparency should be supported by sufficient resource allocation for M&E activities. In anticipating possible risks at the planning stage (during the design of the M&EM), strategies to minimize their burden can be identified and addressed at an early stage.

4. IMPLEMENTING MONITORING AND EVALUATION FOR TECHNICAL COOPERATION PROJECTS: PRINCIPLES AND TOOLS

Purpose of Chapter 4

- Clarify key principles for M&E within the TC context;
- Present tools and methodologies for M&E of TC projects.

As explained in the previous module, the entry point for developing an M&EM is the LFM, which contains the hierarchy of results. Indicators in the matrix are given for each level of results (output and outcome), implementation arrangements and context. Data gathering methods are provided for each indicator.

When designing the project one moves from the top downwards along the result hierarchy, and when implementing it is the other way around. Therefore, M&E starts as soon as inputs and resources are in place.

In this module, the principles and methods to observe when conducting M&E at each level of the hierarchy are discussed. These are followed by the presentation of tools and mechanisms applied for TC projects.

4.1. PRINCIPLES OF MONITORING AND EVALUATION WITHIN THE TC PROGRAMME

M&E efforts within the TC programme should, at a minimum, include the following aims:

- Assess progress made towards achieving the expected outcome. This entails analysing the extent to which the intended outcome is going to be achieved (after completion of the project);
- Highlight factors contributing to, or impeding the achievement of, the outcome. This necessitates monitoring the project context and assumptions;
- Assess whether or not outputs are being achieved as planned and the extent to which they will contribute to the outcome. This also entails monitoring the implementation arrangements;
- Analyse timeliness and efficiency in the completion of planned activities;
- Highlight lessons to be drawn for knowledge creation and sharing.

4.1.1. Outcome monitoring

An outcome is achieved through the generation of outputs. Therefore, monitoring an outcome requires a clear understanding of all contributory outputs. Due to their specificity (often of short term duration and little volume of funds), outcome monitoring of TC projects should take into account the likelihood that the expected change will happen after the project is closed. In other words, it is generally not expected that the outcome will be achieved by the end of the TC project.

Monitoring a TC project outcome implies ascertaining if the expected outcome is likely to be achieved or whether it will evolve into something else. This is done by tracking any sign, indication or evidence in line with the indicators in the LFM.

It is also necessary to regularly check whether the assumptions related to the outcome have materialized, and therefore, to analyse the context of the project in order to identify lessons to be learned¹⁵ (see below).

4.1.2. Monitoring outputs

Outputs are obtained by converting inputs and resources through activities. TC projects are normally of a simple nature, thus the achievement of planned outputs is straightforward once the planned activities are implemented.

The primary responsibility for producing outputs lies with the project's main CP. Outputs must be achieved within the project lifetime.

M&E of TC project outputs can be done on a six-monthly basis. However, if there is a delay in launching the project, the first M&E progress report can be postponed until the end of the first year.

Monitoring of outputs involves:

- a. Analysis of the extent to which outputs have been produced. This is done by comparing the 'actual' against the 'target' of each listed output indicator;
- b. Verification if outputs assumptions have been realized;
- c. Analysis of the implementation arrangements in order to highlight important issues and lessons that can be learned.

4.1.3. Monitoring activities and inputs

In relation to the M&E of activities and inputs of TC Projects, the concern is to ascertain whether:

- a. Planned activities and tasks are being (or have been) implemented in a timely manner;
- b. Resources are being (or have been) used in an optimal manner (efficiently).

For these purposes, the project operational plan (workplan) and budget established at the planning and design phase, serve as key reference documents (see Annex E).

The M&E of activities and inputs start automatically with the launching of the project. The project workplan should identify the main project milestones and the critical path of the project. Deviations occur all the time, but not all deviations are equally important. M&E should focus on these two aspects. In case of deviations from the critical path it is essential to identify timely corrective or remedial actions.

The follow up of critical paths and meeting of deadlines is the responsibility of the project CP, while the responsibility for resource monitoring lies primarily with the Secretariat, which uses various IT platforms (e.g. PCMF, TC-PRIME, AIPS and ATLAS) for this purpose.

4.1.4. Monitoring the project implementation arrangements and overall context

In order to achieve project results specified in the LFM, it is necessary to learn as a team, and from interactions with partners, beneficiaries, and other stakeholders. While the design of the LFM and M&EM, and the implementation of strategies are structural elements, the process of learning refers to the 'soft' dimension of project management.

The ultimate goal of monitoring the project implementation arrangements and overall context is to enhance learning within the organization and among its stakeholders. This relates to how experiences are validated and turned into lessons to be learned. Sometimes lessons will stem from success, and sometimes they will

¹⁵ See footnote 8

originate from failure. All lessons, however, are beneficial to learn from, in terms of what worked well or what went wrong. The main questions to ask are:

- What are the lessons to be learned and how can they be disseminated within the project team¹⁶ and fed back to the organization as a whole?
- Are experiences and knowledge shared within a project team and its stakeholders?
- What can most likely be replicated in another project phase or component, i.e. transferability?

For lessons to be drawn, project teams need to understand what worked – or did not work – where, with whom, under what circumstances and why. This requires being able to analyse the project implementation arrangements and context.

It is only possible to learn lessons when there is enough time to reflect on practice, identify lessons and publicise them to others, and when others have the chance to absorb and apply the lessons. Ideally project teams should schedule regular meetings for this type of reflection on the project, and to record monitoring information. In the first instance, monitoring should give the project team and stakeholders the chance to discuss/exchange, identify some lessons, and learn from lessons identified in order to improve their practice.

4.2. MONITORING AND EVALUATION TOOLS FOR TC PROJECTS

A range of tools can be applied to M&E. A mixture of tools is recommended in order to ensure that M&E is balanced with other project management functions, and is useful and relevant in achieving its purpose.

The following tools and mechanisms are proposed for the M&E of TC projects: Project Progress Assessment Report (PPAR), field monitoring mission, and Self-Evaluation.

4.2.1. Project Progress Assessment Report (PPAR)

The PPAR is the main monitoring tool for TC projects. It is used during the lifetime of a project to capture progress made towards achieving the expected/planned results. It is also used at the end of the project for the submission of Project Completion Report (PCR). Its submission is mandatory for CPs (see frequency §2.4) using the PCMF (web-based) platform (<http://pcmf.iaea.org>). The information contained in the PPARs submitted is used by the TC Department to compile reports.

The format is presented in Annexes F and G and an example is given in Annex H. The PPAR comprises six sections: Basic information, Outputs, Equipment, Overall Analysis, Outcome, and Lessons to learn/Recommendations. Explanations are provided below for each section.

Basic information:

This is an introductory section that provides information on the country, name of the main CP and institution, project number and title, year of approval and year of effective start up, total approved budget (by donor), reporting period (e.g. 01/2011 to 06/2011), and report contributors, i.e. other project members.

The section ends with a question to point out any change that has occurred during the period under review that has affected the implementation of the project.

Outputs achieved

This section addresses output achievements. The CP is requested to report on outputs that have been achieved fully, partially or not at all, taking into consideration Actual versus Target for each output indicator.

¹⁶ A TC project team includes CP, NLO/NLA, PMO/PMA, TO and other DTMs (in the case of regional and interregional projects).

For planned but partially achieved outputs, it is useful to analyse the extent to which progress is recorded and/or to present the status in terms of activities implemented. For planned outputs that have not been achieved, it is necessary to explain why there is a gap.

Equipment and human resources

This section is related to the equipment and human resources components (inputs provided by the IAEA). It includes any issue related to equipment (commissioning, reception, installation, testing and functioning), fellowships, training, scientific visits, or expert missions/visits. Because these are the main inputs through which TC support is delivered, it is essential to report on their delivery during the reporting period.

Comments and recommendations

This section includes a self-rating, comments in line with the rating, lessons to be learned, and recommendations.

Firstly, the respondent is expected to express his or her true opinion of project performance and the support received from IAEA by rating each aspect on a scale from 1 (very poor) to 5 (very good); thereafter he or she comments on the rating by giving some explanations.

Secondly, it is essential that lessons identified throughout the reporting period be highlighted (as discussed in §3.1.4) and that these lead to specific recommendations. More general recommendations can also be made, but it is necessary to specify to whom each one is addressed.

Outcome progress

The report on outcome is mandatory at project closure and optional at any other time. The aim here is to analyse the likelihood that the expected change will happen after the project ends. For this purpose, the template includes self-explanatory bullet points, as follows:

- a. To what extent the expected outcome is being achieved.
- b. Details/ explanations supporting the statement.
- c. Any other achievements.
- d. Issues encountered (if any) that affected the achievement of the outcome.

A rapid survey/assessment may be necessary to obtain the required information. For this reason, the self-evaluation methodology is relevant for assessing the progress made toward achieving the project outcome.

4.2.2. Field monitoring missions

Field monitoring missions (FMMs) are essential for a better understanding of the reality on the ground. They provide the opportunity to assess the performance of on-going projects and to analyse factors of success and failures during implementation. It is important that field monitoring missions are implemented according to international M&E standards of OECD-DAC.

The objective of monitoring visits is to facilitate mutual learning and TC programme improvement, together with the NLO, CP, as well as other project team members. The scope includes the following M&E criteria: relevance, effectiveness, efficiency, sustainability and ownership.

Sample of Questions for TC Project Monitoring

The main questions that monitoring visits seek to answer include the following:

- 1) To what extent is the project still responding to a gap/need/priority of the country?
- 2) To what extent are activities being/been implemented as planned?
- 3) What are the factors delaying the project implementation and how these are addressed?
- 4) What mechanisms are in place for the project steering/coordination and monitoring and how are these effective?
- 5) Which project outputs have been achieved to date?
- 6) To what extent do the end users or/and beneficiaries have access to the project products/services so far?
- 7) Are gender perspectives taken into consideration in the access/use of the project benefits by end-users or/and beneficiaries (where applicable)?
- 8) Which strategies are in place in order to maintain the project benefit after the end of IAEA support?
- 9) To what extent can other partners (national and international) sustain the project benefits?
- 10) What lesson(s) can be identified so far and what recommendation(s) can be made?

Further details are provided in the guidelines presented in Annexes I and J.

4.2.3. Self-evaluation

Self-evaluation is the process of self-reflection during which an individual, group of individuals, or an institution, critically reviews the: quality, relevance, efficiency, effectiveness and sustainability of the work they have performed against expected results and/or established criteria. In the TC context, a self-evaluation can be conducted at both project and country programme levels. The main purpose is to assess the extent to which the intended results have been achieved (outputs) or are likely to be achieved (outcome), and to highlight lessons to be learned and recommendations for continual improvement.

The scope of self-evaluations covers the evaluation criteria of relevance, efficiency, effectiveness, and sustainability/ownership. The process is formative rather than summative even if the implementation is recommended at the end of projects and country programmes.

The findings are used to inform and improve the next TC programming cycle. The independent evaluation is the responsibility of OIOS as discussed in §1.5. Further details for self-evaluation are provided in Annexes K and L.

RESOURCE DOCUMENTS

EUROPEAN COMMISSION, Aids delivery methods: project cycle management guidelines. European Commission (March 2004.).

EUROPEAN COMMISSION, ROM Handbook: Results-Oriented Monitoring of, European Commission (April 2012.).

IAEA, Designing IAEA Technical Cooperation Projects using the Logical Framework Approach; A quick reference guide (2010).

IAEA (OIOS), Guides for Programme and Project Evaluation (2003).

IFAD, Managing for Impact in Rural Development, a guide for project M&E; Rome (2002).

OECD, Glossary of Key Terms in Evaluation and Results Based Management (2010).

UNDG, Results-based Management Handbook: Harmonizing RBM concept and approaches for improved development results at country level (October 2011).

UNDP, Handbook on Planning Monitoring and Evaluating for Development Results (2009).

WFP, Monitoring and Evaluation Guidelines

WORLD BANK, Self-Assessment in Managing for Results: Conducting Self-Assessment for Development Practitioners (2005).

WORLD BANK, Ten Steps to a Results-Based Monitoring and Evaluation System (2004).

ANNEXES

- A. Example 1 of LFM: Improving a Regulatory Framework
- B. Example 1 of M&E Matrix: Improving a Regulatory Framework
- C. Example 2 of LFM: Radiotherapy Services
- D. Example 2 of M&E Matrix: Radiotherapy Services
- E. Example of Action/Work Plan
- F. Project Progress Assessment Report (PPAR) Template
- G. Guidelines for preparation of PPAR
- H. Example of PPAR submitted
- I. Guidelines for Field Monitoring Missions
- J. Check-list of specific Questions for Monitoring
- K. Guideline for Self-Evaluation
- L. Sample of Information Gathering Tools/Methods

A. EXAMPLE-1 OF LFM: IMPROVING A REGULATORY FRAMEWORK

The project context is presented below

	Design Element	Indicator ¹⁷	Means of Verification	Assumptions
Overall objective	Increased nuclear safety and security in the country...	No. of incidents reduced by x% by 2020	Self-assessment, national, and expert reports	
Outcome (project objective)	Effectiveness of the regulatory system in the country improved	% of compliance to IAEA standards: baseline=45%, target=90% by end of 2016	Self-assessment, national, and expert reports. RASIMS	Government support sustained over time
Outputs	1. Law establishing the Nuclear Regulatory Authority harmonized with the IAEA standards	A new bill introduced for adoption by the legislative organ by end of 2014	Bill document	No delay in the vote of the law
	2. Latest safety standards in line with IAEA in place/adopted	100% of national regulatory guides (3 rd level legislation) aligned with IAEA standards and adopted by end of 2013	Approval document	----
	3. Improved organizational structure in place	- A new organogram approved by end of 2012 - # of staff members deployed to the NRA (baseline 20, target 40 by end of 2013)	Activity report	New deployed staff members join on due time and remain on board
	4. System of monitoring and control of personal and patients exposure is introduced	A national dose registry in place by end 2013 % of personal and patients over exposure reported to NRA on annual basis (baseline 0, target 5%)	Activity report	No delay by the service provider in setting up the system

¹⁷ In this example, the indicators are the same in the LFM as in the M&E matrix (i.e. with baseline, target and timeline). This is important for the TC projects where the LFM is used as a monitoring plan.

	Design Element	Indicator¹⁷	Means of Verification	Assumptions
Activities	<p>1.1 Drafting the new law and implementation regulations</p> <p>1.2 Workshop for discussing the draft law and implementation regulations with stakeholders</p> <p>2.1 Review of national nuclear waste safety regulations versus latest set of IAEA safety standards</p> <p>2.2 Upgrade of the regulatory framework following IAEA safety standards</p> <p>2.3 Organize a workshop to discuss and prepare an action plan for 2013-2015</p> <p>3.1 Review of human resources and organizational structure of NRA</p> <p>3.2 Preparation of proposals for development of regulatory system to reflect current challenges</p> <p>4.1 Establishing national dose registry</p> <p>4.2 Quality programme for individual dosimetry services</p>			

Project justification

The Nuclear Regulatory Authority (NRA) is the main central executive body that regulates the safety of nuclear energy use and radiation safety in Country XXX. Since its creation in 2002, the NRA has benefited from IAEA support in improving the application of nuclear technology within the country. As a result of this support, staff have been trained in different fields of nuclear and radiation safety, and regulatory documents were drafted aligned with recommendations of experts and international good practices.

Despite this support, work remains to be done to strengthen the existing regulatory system in addressing the following challenges: i) improving the law establishing the Nuclear Regulatory Authority to align it with IAEA standards; ii) improving the organizational structure of the Authority; iii) adopting the latest safety standards; iv) introducing a system for controlling personnel and patient exposure.

The current project aims to address these challenges through IAEA supports in terms of: workshops, training courses on regulatory approaches, scientific visits, fellowships, expert missions, as well as procurement and supply of equipment.

B. EXAMPLE 1 OF M&E MATRIX: IMPROVING THE REGULATORY FRAMEWORK

Design Element	Indicator (with baseline and target)	Data collection	Responsible	Periodicity	Risks
<u>Overall objective</u> To enhance the sustainability of the regulatory system	No. of incidents reduced by x% by 2020				
<u>Outcome</u> Improved effectiveness of regulatory functions within the country	% of compliance to IAEA standards: baseline=45%, target= 90% by end of 2016	Inspection reports Annual NRA report (NRA self-assessment) Peer review missions	Senior expert NRA	Once a year	
<u>Outputs</u> 1. Law establishing the Nuclear Regulatory Authority harmonized with IAEA standards	A new bill introduced for adoption by the legislative organ by end of 2014	Documentation review Interviews with experts and officials and MP	NLO/NLA	Every six months	Non availability of legislative contact persons
2. Latest safety standards (IAEA) in place within the country	100% of national regulatory guides (3 rd level legislation) aligned with IAEA standards and adopted by end of 2013	Documentation review	CP	Quarterly	-----
3. A revised organizational structure implemented	- A new organogram approved by end of 2012 - # of staff members	Documentation review	CP	Quarterly	-----

Design Element	Indicator (with baseline and target)	Data collection	Responsible	Periodicity	Risks
	deployed to the NRA (baseline 20, target 40 by end of 2013)				
4. System of monitoring of personnel exposure and patients exposure introduced	A national dose registry in place by end 2013	Direct observation and documentation review	CP	Quarterly	
	% of personal and patients over exposure reported to NRA on annual basis (baseline 0, target 5%)	Interview of trained staff and direct observation	CP	Quarterly	
Implementation Arrangements Effective project management and coordination	One project steering meeting organized every quarter One PPAR prepared and submitted on time every six months	Review of minutes of meetings Analysis of feedbacks received from the secretariat	CP CP	Quarterly June and December each year	None No feedback from the Secretariat
Overall Context Government commitment	A high level meeting organized with officials and experts once a year	Documentation review (both project and policies docs)	Director NRA NLO/NLA	Annually	Non availability of government representatives

C. EXAMPLE-2 OF LFM: RADIOTHERAPY SERVICES

	<i>Design Element</i>	<i>Indicator¹⁸</i>	<i>MoV</i>	<i>Assumptions</i>
Overall objective	To improve the quality of life for cancer patients through radiotherapy techniques and nuclear medicine-based diagnosis	% of increase in life expectancy of cancer patients by 2025	Report DHS National health database	
Outcome	Improved radiotherapy services within the country	# of cancer patients treated using radiotherapy increased from N0 to N1. 100% of patients receiving optimal radiation doses, by end of 2016	Clinic patient register Quality Control report	No change in the clinic technical staff and managers
Output	1. Physical infrastructure for radiotherapy in place and operational	3D Conformal equipment fully functional by end of 2014	Progress report	No technical problem and no delay
	2. Qualified staff available in radiotherapy and radiation safety	6# of trained technicians on board by mid-2013	List of staff	Trained staff remained on board
	3. Dosimetry and radiation protection equipment in place and operational	# of dosimeters in used: baseline=0, target=10 by end of 2014	Progress report	No technical problem encountered
	4. Guidelines and protocols (according to latest standards) adopted	100% of technicians oriented on guidelines and protocols by June 2014	Progress report	----

¹⁸ See footnote No.17.

	<i>Design Element</i>	<i>Indicator¹⁸</i>	<i>MoV</i>	<i>Assumptions</i>
Activities	<p>1.1- Implement prior actions required for the installation of the equipment</p> <p>1.2- Delivery and initial testing of radiotherapy equipment</p> <p>2.1- Participation in the training on radiotherapy</p> <p>2-2- Participation in training in radiation safety</p> <p>3.1- Commissioning of dosimetry equipment</p> <p>3.2- Installation and initial testing</p> <p>4.1- Develop guidelines and protocol</p> <p>4.2- Organize a consultation on guidelines and protocols</p>			

D. EXAMPLE 2 OF M&E MATRIX: RADIOTHERAPY SERVICES

	Indicators (+ baseline and target)	Data collection/ analysis	Responsible	Periodicity/ Timeframe	Risks
<u>Overall objective:</u> To improve the quality of lives for cancer patients	% of increase in life expectancy of cancer patients by 2025	-----	-----	-----	-----
<u>Outcome:</u> Improved radio therapy services within the country (latest standards)	# of cancer patients treated using radiotherapy increased from N_0 to N_1 . 100% of patients receiving optimal radiation doses, by end of 2016	Hospital/clinic registry data retrieval & analysis Quality control report analysis	CP CP	Annually (from 2014) End 2014, 2015 and 2016	None None
<u>Output 1:</u> Physical infrastructure for Radiotherapy in place and operational	3D Conformal equipment fully functional by end of 2014	Activity and technical reports analysis	Lead technician	Quarterly (from mid of 2014)	None
<u>Output 2:</u> Qualified staff available in radiotherapy and radiation safety	6# of trained technicians on board by mid-2013	Nominative list of staff Interview with HR	Lead technician	Mid and end 2013 and 2014	None

	Indicators (+ baseline and target)	Data collection/ analysis	Responsible	Periodicity/ Timeframe	Risks
<u>Output 3:</u> Dosimeters and radiation protection equipment in place and operational	# of dosimeters in used: baseline=0, target=10 by end of 2014	Activity reports Content analysis	Lead technician	Quarterly (from mid of 2014)	None
<u>Output 4:</u> Guidelines and protocols (according to latest standards) adopted	100% of technicians oriented on guidelines and protocols by June 2014	Activity and mission reports Content analysis	Lead technician	Mid and end of 2014	None
<u>Implementation Arrangements</u> Effective project management	At least one quarterly review meeting	Meeting minutes Content analysis	CP	Quarterly	None
<u>Overall Context</u> Interaction with the regulatory body	At least one meeting in a year with experts of the regulatory body	Meeting minutes Content analysis	CP	Annually	Non availability of regulatory body experts

E. EXAMPLE OF WORK/ACTION PLAN

(OUTPUT /) Activities	Responsibility (MS, IAEA, Others)	Inputs (e.g. FE, SV, EX, PR, TRC, meeting, cash)	Funding Source (IAEA, Govt. Cost-Sharing, MS, Other)	Quantity (Q)	Rate (R) (see table in next page for IAEA inputs)	Budget (=QxR)	Start	End
Output 1: (From the LFM)								
1.1 ...								
1.2 ...								
...(add lines as needed)								
Output 2: (From the LFM)								
2.1...								
...(add lines as needed)								
Output 3: (From the LFM)								
3.1...								
3.2...								
...(add lines as needed)								

F. PROJECT PROGRESS ASSESSMENT REPORT (PPAR)

TEMPLATE

SECTION-1: BASIC INFORMATION		Explanations
Country		This information will come from the system when filled in the PCMF. Please complete manually when filling in this template
Counterpart Name & Institution :		
Project Number and Title:		
Year of Approval:		<i>i.e. first approval year</i>
Effective Starting Date:		<i>Month and year</i>
Expected End Date:		<i>Month and year</i>
Total Project Budget:	IAEA TCF: Other funding :	<i>Please specify the currency</i>
Reporting Period		<i>Specify: from month/year to month/year</i>
Report Contributors		<i>Other contributors to the report besides counterpart</i>
Has there been any change that negatively affected the project implementation? If yes, please explain.	<input type="checkbox"/> Change of project team member: (<input type="checkbox"/> CP, <input type="checkbox"/> NLO <input type="checkbox"/> PMO <input type="checkbox"/> TO); Explanation	
	<input type="checkbox"/> Change in budget/funding; Explanation	
	<input type="checkbox"/> Other change; Explanation	
SECTION-2: OUTPUTS ACHIEVEMENT (mandatory for PPAR and project closure report)		
Please refer to the project LFM and provide the following information		
Outputs achieved as the results of activities implemented	<u>Fully achieved</u> 1. 2. 3.	<i>Present what has been achieved against planned target for each output and its indicator of the LFM. Attach relevant documentation as needed.</i>
Outputs partially achieved or in progress and status	<u>Partially achieved or in progress:</u> 1. 2. 3.	<i>For each partially achieved output, explain status of progress made and related implementation issues (if any)</i>
Outputs not achieved and reasons	<u>Not achieved:</u> 1. 2. 3.	<i>For each non-achieved output, explain why.</i>

SECTION-3: EQUIPMENT & HUMAN RESOURCES (mandatory for PPAR and project closure report)		
Please explain issues related to the equipment component.		<i>This can be related to request, reception, commissioning, installation, testing or functioning.</i>
Please explain issues related to the human resource (HR) component.		<i>In relation with fellowship, training, experts, and scientific visits.</i>
SECTION-4: COMMENT AND RECOMMENDATIONS BY CP (mandatory for PPAR and project closure report)		
Rating by CP: So far, how would you rate on a scale of 1 (very poor) to 5 (very good)?	1) Your project performance: 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/>	1= very poor 2= poor 3= fair 4= good 5= very good
	2) The support received from the Agency: 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/>	
Comment(s) by CP		<i>Comment(s) supporting the previous ratings</i>
Lessons learned		<i>Highlight factors of successes and failures</i>
Recommendation(s) by CP		<i>Indicate to whom the recommendation is addressed e.g. IAEA (TO, PMO or other), the NLO, the Government...</i>
SECTION-5: OUTCOME PROGRESS: (mandatory for PROJECT CLOSURE REPORT (PCR), Optional for PPAR)		
Outcome statement		<i>To be selected from the project LFM</i>
Indicator(s)		
1) Please state to what extent the expected outcome is being achieved.		<i>Progress in relation to the likelihood that the expected outcome will be achieved or not</i>
2) Please provide details/ explanations supporting the statement.		<i>Provide examples, (field) observations, or signs. Attach any document supporting your statement</i>
3) Please state any other achievements.		<i>Spin-offs, unexpected/unplanned benefits or negative effect(s)</i>
4) Please explain issues encountered (if any) that affected the achievement of the outcome.		<i>Issues can be related to the overall project context</i>

SECTION-6: CLEARANCE BY NLO (mandatory for PCR and PPAR)

Clearance by NLO	Date:	
	Remarks:	<i>Kindly provide remarks or comments, if any</i>

SECTION-7: FEEDBACK BY IAEA ON THE REPORT

Comments by TO(s)		<i>Feedback from the TO(s) on the report</i>
Comments by PMO		<i>Feedback from the PMO on the report</i>

SECTION-3: EQUIPMENT & HUMAN RESOURCES (mandatory for PPAR and project closure report)

Please explain issues related to the equipment component.	<i>Issues can be related to the: request, delivery, commissioning, installation, testing, operation or functioning of equipment.</i>
Please explain issues related to the human resource (HR) component	<i>This can be related to fellowship, training, scientific visits, or expert visits.</i>

SECTION-4: COMMENTS AND RECOMMENDATIONS (mandatory for PPAR and project closure report)

This section includes: self-assessment (or rating), comments in line with the rating, lessons learned and recommendations.

Rating by CP: So far, how would you rate on a scale of 1 (very poor) to 5 (very good)?	<p><i>The respondent (CP) is expected to express his/her true opinion on the project performance and the support received from IAEA.</i></p> <p>1) Your project performance: 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/></p> <p>2) The support received from the Agency: 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/></p>
Comments by CP	<i>Provide comment / explanation that supports your previous rating</i>
Lessons learned	<i>Identification of factors of successes (what went well) or / and failures (what went wrong) in terms of: how, why, with whom, under what circumstances and so what. Lessons learned are mainly related to the implementation arrangements and the overall project context.</i>
Recommendation by CP	<i>Recommendations shall derive from lessons learned. It is essential to indicate to whom a specific recommendation is addressed.</i>

SECTION-5: OUTCOME PROGRESS (mandatory for PROJECT CLOSURE REPORT (PCR), Optional for PPAR)

1) Please state to what extent the expected outcome is being achieved.	<i>An outcome is achieved after planned outputs are realized. The point here is to ascertain if the expected outcome is likely to be achieved. Thus, explain any progress already recorded in line with each outcome indicator.</i>
2) Please provide details/ explanations supporting the statement.	<i>Any example, sign, or (field) observation in line with your previous response shall be reported. This will be useful for identification of cases for success stories. Attach any documentation supporting your statement.</i>
3) Please state any other achievements.	<i>Report spin-offs, unexpected/unplanned benefits or negative effect</i>
4) Please explain issues encountered (if any) that affected the achievement of the outcome.	<i>Issues can be related to the assumptions of the LFM (outcome and outputs levels) and also to the project context and implementation issues. Report bottlenecks or problems encountered not already mentioned above.</i>

SECTION-6: CLEARANCE BY NLO (mandatory for PCR and PPAR)

Clearance by NLO *Date of clearance by the NLO and feedback, if any.*

SECTION-7: FEEDBACK BY IAEA ON THE REPORT

Comments by TO(s) *Feedback from the TO(s), after the report is submitted by the CP*

Comments by PMO *Feedback from the PMO, after the report is submitted by the CP*

H. EXAMPLE OF PROJECT PROGRESS ASSESSMENT REPORT (PPAR)

		Explanations
SECTION-1: BASIC INFORMATION		
Country	Country-M	This information will come from the system when filled in the PCMF. Please fill it manually when filling in this template
Counterpart Name & Institution :	Mrs. A. E. N. Agriculture Research Institute of Country-M, Directorate of Animal Sciences , Ministry of Agriculture	
Project Number and Title:	M/5/002, Promoting Sustainable Animal Health, Reproduction and Productivity Through the Use of Nuclear and Related Techniques	
Year of approval:	2009	
Effective starting date:	01/2009	Month / year
Expected end date:	12/2013	Month / Year
Total Project budget:	IAEA TCF: USD 324,265 Other fundings: None	Please specify the currency
Reporting Period	January 2010 to December 2011	Specify: from month/year to month/year
Report Contributors	1- S. A. 2- L. M. 3- P. D.	Other contributors to the report other than counterpart
Has there been any change that negatively affected the project implementation? If yes, explain.	<input checked="" type="checkbox"/> Change of project team member (<input checked="" type="checkbox"/> CP, <input type="checkbox"/> NLO <input type="checkbox"/> PMO <input type="checkbox"/> TO); Explanation: Two local team members were changed due respectively post graduate studies and other commitments <input type="checkbox"/> Budget/funding; Explanation _____ <input type="checkbox"/> Other; Explanation _____	
SECTION-2: OUTPUTS ACHIEVEMENT (mandatory for PPAR and project closure report)		
Please refer to the project LFM and provide the following information		
Outputs achieved as the results of activities implemented	Fully achieved 1. The Central Veterinary Laboratory (CVL) was upgraded as planned, due to new equipment received, installed and in use, to accommodate serological and molecular techniques; 2. Capability of CVL staff members enhanced due to trainings received: 6# in serological and molecular techniques (ELISA and PCR) as planned (100% achievement); 2# in AI and cryo preservation techniques (100% achievement); 1# in quality assurance (100% achievement)	Present what has been achieved against planned target for each output and its indicator of the LFM. Attach relevant documentation as needed.

Outputs partially achieved or in progress and status	<p><u>Partially achieved or in progress:</u></p> <ol style="list-style-type: none"> 1. <i>Capacity on disease diagnostic laboratory established on performing nuclear and related techniques partially achieved. The laboratory personnel were trained, equipment and conditions to perform nuclear and related techniques such as ELISA and PCR, some test kits were provided by the agency. However, due to procurement and other administrative issues at the Agency the planned diagnostics reagents and consumables are delayed. While the planned techniques have been established there is a need to validate the established diagnostic tests and to consolidate the all work, performing the diagnosis and epidemiological studies of the most important diseases.</i> <p><i>At the animal production side, the changes on the team members of this component and delay on some consumables partially affected the planned activities.</i></p> <ol style="list-style-type: none"> 2. 3. 	For each partially achieved output, explain status of progress made and related implementation issues (if any)
Outputs not achieved and reasons	<p><u>Non-achieved:</u></p> <ol style="list-style-type: none"> 1. <i>Validation of some planned diagnostic tests was not achieved due to delay on implementation of Lab activities and acquisition of reagents and consumables.</i> 2. <i>Characterization of Indigenous livestock not performed due to changes of project staff and other organizational issues</i> 3. 	For each non- achieved output, explain why
SECTION-3: EQUIPMENT & HUMAN RESOURCES (mandatory for PPAR and project closure report)		
Please explain issues related to the equipment component.	<i>Planned equipment and other needs for 2011 were not procured due to less availability of funds , this request was revised, harmonized and planned for 2012</i>	<i>Issues can be related to request, reception, commissioning, installation, testing or functioning.</i>
Please explain issues related to the human resource (HR) component.	<i>The project team and other Lab technicians were trained on basic nuclear and related techniques; however there is a need of an intensive and periodic in service training for better familiarization of introduced nuclear techniques and on the use and maintenance of equipment. This can be done by specific experts missions</i>	<i>In relation with fellowship, training, experts, and scientific visits.</i>
SECTION-4: COMMENT AND RECOMMENDATIONS BY CP (mandatory for PPAR and project closure report)		
Rating by CP: So far, how would you rate on a scale of 1 (very poor) to 5 (very good)?	<ol style="list-style-type: none"> 3) Your project performance: 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input checked="" type="checkbox"/> 5 <input type="checkbox"/> 4) The support received from the Agency: 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input checked="" type="checkbox"/> 5 <input type="checkbox"/> 	1= very poor 2= poor 3= fair 4= good 5= very good
Comments by CP	<i>We welcome the support provided by the Agency to meet our goal, however there is a need to improve our performance, especially trying to find solutions to the financing of planned local activities under the project, however the Agency should also make efforts to allocate the planned resources on time</i>	<i>Comment supporting the previous ratings</i>
Lessons learned	<i>Improved team working; Established networking in all components of the project and within national counterparts</i>	<i>Highlight factors of successes and failures</i>

Recommendation by CP	<p><i>To IAEA: Improvement of procurement and the process of equipment and reagents delivery; Provision of more technical expert missions for identification of real gaps and provision of recommendations.</i></p> <p><i>To all: improve of communication among actors; Establishment of an efficient M&E of project activities</i></p>	<p><i>Indicate to whom the recommendation is addressed e.g. IAEA (TO, PMO or other), the NLO, the Government...</i></p>
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SECTION-5: OUTCOME PROGRESS (mandatory for PROJECT CLOSURE REPORT (PCR), Optional for PPAR)

Outcome statement	Enhanced diagnosis and control of trans boundary animal diseases is improving the livelihoods of rural communities and farmers; Breeding strategies and animal reproduction improved through better characterization of indigenous/local livestock	From the project LFM
Indicator(s)	Diagnostic techniques on the most important diseases established (FMD, RFV, Brucellosis, TB and TBD), and a package of recommendations on diseases status produced by the end of the project ; Indigenous livestock characterized	
5) Please state to what extent the expected outcome is being achieved.	<i>The impact of introduced veterinary diagnostic tools and AI techniques is being felt throughout the country. It has an effect on the livelihoods of many communities through the rapid identification and prevention of the most important and strategic animal diseases and on the improvement of animal breeding management</i>	Progress in relation to the likelihood that the expected outcome will be achieved or not
6) Please provide details/ explanations supporting the statement.	<i>As example, the most recent FMD outbreak in 2010 that occurred in the South part of the country was timely detected by the ELISA technique performed at CVL, which helped to control the spread of the disease to other animals and to other areas. In a strategized and focused sampling frame from one Province, 31 samples were confirmed as FMD positives out of a total of 189. In addition, a survey carried out in the same period in one district of the Province revealed a sero prevalence of about 0.6%. The extension of the immunological platforms with the molecular platforms will facilitate the characterization of the circulating FMD virus at the time, which will help with the matching of outbreak FMD virus with vaccine FMD virus</i>	Provide examples, (field) observation or signs. Attach any document supporting your statement
7) Please state any other achievements.		Spin-offs, unexpected/unplanned benefits or negative effect
8) Please explain issues encountered (if any) that affected the achievement of the outcome.	<i>Delay on the provision of some Lab reagents and consumables and on animal production activities; problems of availability of national funds for field activities could affect the outcome</i>	Issues can be related to the overall project context

SECTION-6: CLEARANCE BY THE NLO (mandatory for PCR and PPAR)

Clearance by NLO	Date: _____	
	Remark: _____	Kindly provide remark or comment, if any

I. GUIDELINES FOR FIELD MONITORING MISSIONS¹⁹

Field monitoring missions (FMMs) are essential for better understanding the reality on the ground. They provide the opportunity to assess the performance of on-going projects and analyse factors of success and failures during implementation.

It is important that field monitoring missions are implemented according to international M&E standards of OECD-DAC.

Objectives

The objective of monitoring visits is to facilitate mutual learning and TC programme improvement through the assessment of the performance of on-going projects, together with the NLO, CP, as well as other project team members.

Expected output

The expected output or deliverable of a FMM is the report presenting findings and conclusions on the assessment of on-going projects with regard to the following aspects:

- a. Relevance of the need(s)/gap(s) being addressed;
- b. Progress made in achieving the expected outputs and outcome;
- c. Efficiency of implementation arrangements and mechanisms;
- d. Incidence of the overall context with regard to sustainability and ownership;
- e. Lessons to be learned.

Methodology

The data gathering methods to apply during the FMMs shall be qualitative and participatory. They include: desk review of documentation (project design and other reports), semi structured individual and group interviews with relevant stakeholders (e.g. officials, project team members, end users and beneficiaries), direct observations (of experiences, events and facts), and gathering of evidence (e.g. pictures, press release, testimonies).

Specific questions to be discussed/covered are presented in the table below as well as suggested data gathering methods. It might be necessary to discuss and agree on relevant questions/topics depending on the type of project .

It is essential to start the desk review of available project documentation (e.g. CPF or Regional Agreement document, project document, progress reports, previous duty travel and expert reports) at the Secretariat and to meet with the relevant PMO, Programme Management Assistant (PMA) and TO(s) before the mission. It will help to better understand the context of projects and to clarify questions and issues that need specific consideration.

Before the visit, a short questionnaire will be sent to CPs receiving the mission and this helps them to be prepared. The mission will start with a briefing meeting with the NLO/NLA and relevant stakeholders in order to explain the purpose and strategy of the mission and agree on the agenda and

¹⁹ This tool is intended to be used by Agency staff members and external resource persons (e.g. consultants, experts) undertaking independent monitoring visits of TC projects. It can also be used for routine project monitoring conducted by a project stakeholder.

sites to be visited. In the same line, a debriefing meeting shall be organised at the end of the mission to present key findings and conclusions.

Sample of tasks to be undertaken include: Field project documentation review, meeting and discussion with project CPs and team members at their respective institutions (2 projects per day), observation of realizations/achievements and other evidences, discussion with end-users or/and beneficiaries (if necessary).

Reporting

After the FMM, a report shall be produced (within 2 weeks, if possible) and shared with key stakeholders. The fields below are proposed:

- City and country visited
- Dates
- Experts
- Projects monitored (no. and title)
- Institutions/sites visited
- Objective
- Activities undertaken
- Findings
- Conclusions, lessons and recommendations
- Appendices
 - List of persons met
 - Rating table

J. CHECKLIST OF SPECIFIC QUESTIONS FOR MONITORING

The questions are only indicative and shall be selected/adjusted/adapted to each context. It is recommended to apply more than one data gathering method in order to triangulate and ensure evidence based monitoring.

Possible data gathering methods (not exhaustive)	
Relevance	
<ul style="list-style-type: none"> ⇒ Does the project still respond to a need/priority within the country? ⇒ Are the IAEA role and contribution still relevant to address the gap identified at the beginning of the project? ⇒ Is the result hierarchy (especially outcome) clear to the project key stakeholders? 	<ul style="list-style-type: none"> Desk review of documents Semi structured Interviews with CPs, NLO and relevant resource persons... Focus group discussion
Efficiency	
<ul style="list-style-type: none"> ➤ Have all financial contributions been provided on time? ➤ To what extent are inputs (equipment and HR component) available/ put in place on time? ➤ To what extent are activities implemented as planned and according to the set deadlines? ➤ To what extent is the project workplan updated and documented? ➤ What are the delay factors and how corrective measures are taken to address these? ➤ How is the project monitored/steered or coordinated? 	<ul style="list-style-type: none"> Desk review of TC financial and implementation reports Semi structured interviews Direct observation Focus group discussion
Effectiveness	
<ul style="list-style-type: none"> ✓ To what extent have planned outputs been delivered to date? ✓ What is the quality of the outputs already delivered? ✓ Are the outputs achieved (or being achieved) likely to contribute achieving the expected outcome? ✓ To what extent do the end-users or/and beneficiaries have access to the project products/services so far? ✓ To what extent gender perspectives are taken into consideration in the access to products or services (where applicable)? ✓ Is there any unplanned effect – whether positive or negative – that occurred (or is likely to occur)? ✓ To what extent did/can the CP/Institution take appropriate corrective measures? 	<ul style="list-style-type: none"> Desk review of documents Semi structured Interviews Review of field documentation (Press release, official reports...) Focus group discussion Direct observations (facts, pictures, testimonies)
Sustainability & Ownership	
<ul style="list-style-type: none"> □ Is the CP institution able to afford the maintenance and operational costs of the equipment/technology introduced? □ Are the Human Resources in the CP institution trained and retained in order to continue the delivering of services? □ To what extent are different local stakeholders involved in the project implementation? □ To what extent is the project anchored within a programme or/and strategy of the CP institution? □ What is the likelihood that relevant achieved results (or being achieved) will be maintained even if a contextual change occurs (e.g. management, government)? □ Is there strong/good partnership(s) developed in order to sustain (technically, financially and managerially) the project benefits? 	<ul style="list-style-type: none"> Desk review of documents Semi structured interviews Direct observations Review of field documentation (Official reports, policies and plans...)

K. GUIDELINES²⁰ FOR SELF-EVALUATION

Definition

Self-evaluation is the process of self-reflection during which an individual, a group of individuals, or an institution, critically reviews the quality, relevance, efficiency and effectiveness of the work and its performance against expected results or/and established standards/criteria. When conducted on projects, self-evaluation highlights achievements as well as areas for improvement, and supports progress towards project outcome.

Objectives

The objectives of self-evaluation can include:

1. Assess the project achievements;
2. Assess progress made towards achieving the expected outcome;
3. Analyse the implementation approaches, project arrangements and context in order to identify lessons to be learned;
4. Make specific recommendations.

Scope

Self-evaluation can be conducted at the mid- or end-term of a project or country programme. The scope covers the evaluation criteria of relevance, efficiency, effectiveness and sustainability.

The monitoring questions presented above are also applicable here. Moreover, self-evaluations are more analytical in terms of making inferences on the successes and failures of the project by answering the following questions.

- What has succeeded and/or failed in the project?
- Why did the successes and failures happen?
- Is it necessary to do things differently or utilize different approaches?
- What are the implications for the future in terms of actions and improvements?

Steps to conduct a self-evaluation²¹

A simple methodology is proposed below, aligned with the small size of most TC projects. It includes the following steps: preparation of terms of references (ToRs), data gathering and analysis, reporting and usage of findings.

- a. Preparation of ToRs: This consists of:
 - Clarifying the scope of the self-evaluation (i.e. questions to be answered) and deliverables;
 - Agreeing on tools to be applied (in order to get the right answer to the self-evaluation questions);

²⁰ The self-evaluation tools are intended to be applied by NLOs and TC project CPs for ending projects.

²¹ A more detailed guidelines on self-evaluation will be developed separately for TC projects and programme.

- Defining stakeholders that should be involved in the process;
 - Setting the timeframe for completion of tasks.
- b. Data gathering and analysis: for this purpose, quantitative and qualitative tools can be used. A combination of tools is needed depending of the nature of project, resources and time available. A documentation review may also be necessary. The following tools are proposed (not restrictive):
- Direct observation/measurement;
 - Survey (formal and quantitative);
 - Interviews (semi-structured and informal);
 - Focus group discussion (FGD);
 - Critical Reflection & Analysis Workshops;
 - Strengths, Weaknesses, Opportunity and Threats (SWOT) analysis;
 - Successes, Failures, Potentialities and Obstacles (SEPO) analysis;
 - Most Significant Change (MSC) technique.
- c. Reporting and using findings, this step includes:
- Writing a report. There is no specific format for TC project reports. It is necessary to have a concise report that presents clearly the methodology (stakeholders, data collection/analysis methods), findings, conclusions and recommendations;
 - Disseminate the report to key stakeholders. In relation to the Secretariat, the findings of the self-evaluation are incorporated in the PPAR, and the report itself should be sent as an attachment. The report should also be sent to all other involved partners.
 - Implementation of the recommendations made for improvement.

L. SAMPLE OF INFORMATION GATHERING TOOLS/METHODS

Below are presented in summary some information gathering tools/methods that are simple and easily to apply in the TC context. Some of the suggested tools/methods serve the purposes of information gathering and analysis simultaneously.

1. Interviews

Interviews aim to collect information and/or views on a specific subject matter. Interviews can be informal (unstructured), semi-structured, and formal (standardized open-ended). Each type serves a different purpose and has different preparation and instrumentation requirements.

The **informal interview** relies primarily on the spontaneous generation of questions in the natural flow of an interaction. This type of interview is appropriate when the evaluator wants to maintain maximum flexibility to be able to pursue questioning in whatever direction appears to be appropriate, depending on the information that emerges from observing a particular setting, or from talking to one or more individuals in that setting.

Semi-structured interviews involve the preparation of an interview guide that lists a pre-determined set of questions or issues that are to be explored during an interview. This guide serves as a checklist during the interview and ensures that the same basic information is obtained from a number of people. Yet there is a great deal of flexibility. The order and the actual wording of the questions are not determined in advance. Moreover, within the list of topic or subject areas, the interviewer is free to pursue certain topics in greater depth.

The **formal interview** (standardized open-ended) consists of a set of open-ended questions carefully worded and arranged in advance. The interviewer asks the same questions to each respondent with essentially the same words and in the same sequence. This type of interview may be particularly appropriate when there are several interviewers and it is necessary to minimize variations in the questions they pose. It is also useful when it is desirable to have the same information from each interviewee at several points in time or when there are time constraints for data collection and analysis. Standardized open-ended interviews allow the systematic collection of detailed data and facilitate comparability among all respondents.

2. Focus Group Discussion (FGD)

A focus group discussion is a qualitative and participatory evaluation tool to be used by a trained and experienced moderator/facilitator with a group of six to twelve people. The discussion – interview is conducted through a check-list of questions. Participants are asked to reflect on the questions asked by the interviewer, provide their own comments, listen to what the rest of the group have to say and react to their observations. The main purpose is to elicit ideas, insights and experiences in a social context where people stimulate each other and consider their own views along with the views of others. The interviewer acts as facilitator: introducing the subject, guiding the discussion, cross-checking each other comments and encouraging all members to express their opinions. It can take one to one and a half hours.

Generally the group is homogenous in composition so that people with the same social status feel comfortable enough to give their point of view on a specific topic. The information can be directly recorded by a tape-recorder, or typed by somebody taking notes.

Focus groups can be used in the monitoring and evaluation of complex projects with a variety of counterparts. Focus group meetings can help to achieve the following:

- Validate observations or findings on results achieved;
- Qualify the project arrangements and overall context, in particular how things went;
- Validate conclusions and recommendations for improvement.

3. Critical Review Meetings/Workshops

A critical review is a monitoring mechanism that provides an opportunity to project stakeholders to reflect on “how things are going” or “how things are progressing”. Regular project reviews are recognized to be part of good management practice in terms of tracking progress, obtaining and discussing feedback, and mutual support and learning among the project team members.

Critical reviews should include all stakeholders who play important roles in the project. The main purpose is to increase project performance and mutual learning. The main questions for critical reviews are:

- How are we progressing?
- What went well? What went wrong?
- What to do differently in future? Ideas?
- What can be learned so far from both successes, and challenges?
- What future actions might be taken?

During critical reviews, special attention should be given to the ‘assumptions’ and ‘risks’ identified in the project LFM to ensure that there is no change to this level which could have a negative effect or impair the implementation or success of the project. Beyond formal meetings, the process of critical reflection should also encourage informal exchanges of experience between stakeholders.

4. SEPO Analysis

SEPO stands for the French abbreviations of successes (succès), failures (échecs), potentials (potentialités), and obstacles (obstacles). SEPO analysis is similar to the well-known SWOT analysis. But while SWOT analysis divides the field of analysis in an internal (strengths, weaknesses) and an external dimension (opportunities, threats), SEPO analysis focuses on the timeframe.

The SEPO analysis allows assessing the project considering i) looking backward (the past) with Successes and Failures and looking forward (the future) with Potentials and Obstacles.

<i>Past</i>	<i>Future</i>
<p><u>Success</u></p> <ul style="list-style-type: none"> ✓ What went well ✓ Results achieved ✓ Successful process/events 	<p><u>Potentials</u></p> <ul style="list-style-type: none"> ✓ Assets ✓ Possible successes ✓ Unused capabilities ✓ New challenges
<p><u>Failures</u></p> <ul style="list-style-type: none"> ✓ What went wrong ✓ Difficulties/constraints ✓ Blockages and excesses ✓ Negative effects 	<p><u>Obstacles</u></p> <ul style="list-style-type: none"> ✓ Handicaps/resistance ✓ Opposition ✓ Unfavourable context ✓ Possible excess

The tool is useful when one intends to proceed in the same direction without major changes (e.g. continuation of the same project). But if the intention is to change the direction (e.g. a new project) it is better to use the well-known SWOT analysis method.

5. Example of SEPO application to evaluate a workshop²²

<i>Past</i>	<i>Future</i>
<p><u>Success</u></p> <ul style="list-style-type: none"> • What went well <ul style="list-style-type: none"> ○ <i>Organization</i> ○ <i>Interaction</i> ○ <i>Implementation</i> ○ <i>Attendance</i> ○ <i>Group activities</i> ○ <i>Social programme</i> • Results achieved <ul style="list-style-type: none"> ○ <i>Refreshed knowledge about LFA</i> ○ <i>Better understanding of LFA</i> ○ <i>Better understanding of M&E</i> ○ <i>New approach on self-evaluation</i> ○ <i>Harmonization of LFM-clearer</i> • Successful process/events <ul style="list-style-type: none"> ○ <i>Interaction was good</i> ○ <i>Learning process/discussions-gradual</i> ○ <i>Case studies for group discussions</i> 	<p><u>Potentials</u></p> <ul style="list-style-type: none"> • Assets <ul style="list-style-type: none"> ○ <i>Acquired knowledge will help participants improve current projects, including implementation, achievement and evaluation.</i> ○ <i>The knowledge will help formulate projects in future</i> • Possible successes <ul style="list-style-type: none"> ○ <i>Better implementation of the projects and evaluation for current and future</i> • Unused capabilities <ul style="list-style-type: none"> ○ <i>Technical knowledge related to nuclear techniques and technologies</i> • New challenges <ul style="list-style-type: none"> ○ <i>Implementation and sustainability of M&E and also integrating it in projects</i>
<p><u>Failures</u></p> <ul style="list-style-type: none"> • What went wrong <ul style="list-style-type: none"> ○ <i>Nothing</i> • Difficulties/constraints <ul style="list-style-type: none"> ○ <i>Too much information to master within one week</i> • Blockages and excesses <ul style="list-style-type: none"> ○ <i>None</i> • Negative effects <ul style="list-style-type: none"> ○ <i>None</i> 	<p><u>Obstacles</u></p> <ul style="list-style-type: none"> • Handicaps /resistance <ul style="list-style-type: none"> ○ <i>Heterogeneity of approach from colleagues who did not attend the course</i> • Opposition <ul style="list-style-type: none"> ○ <i>Same as above</i> • Unfavourable context <ul style="list-style-type: none"> ○ <i>local constraints regarding funding, brain drain, infrastructure and human resources</i> • Possible excess <ul style="list-style-type: none"> ○ <i>local abilities do not match with the availabilities of resources</i>

²² This was used by participants in a March 2012 workshop to evaluate whether it was successful or not.

6. Most Significant Change (MSC) technique²³

The Most Significant Change technique is a form of participatory monitoring and evaluation. It is participatory because many project stakeholders are involved both in deciding the sorts of change to be recorded and in the analysis. It is a form of monitoring because it occurs throughout the project cycle and provides information to help manage the project. It contributes to evaluation because it provides data on impact and outcome that can be used to help assess the performance of the project as a whole.

Essentially, the process involves the collection of Significant Change (SC) stories emanating from the field level, and the systematic selection of the most significant of these stories by panels of designated stakeholders or staff. The designated staff and stakeholders are initially involved by 'searching' for project impact. Once changes have been captured, various people sit down together, read the stories aloud and have regular and often in-depth discussions about the value of these reported changes.

When the technique is implemented successfully, whole teams of people begin to focus their attention on project outcome and impact. The technique is especially helpful in identifying and analysing the unexpected positive and negative outputs and outcome of our project.

It should perhaps be noted that MSC is also a very time-consuming exercise involving trained facilitators capable of eliciting and drawing out information across various cultures. Furthermore, it is not clear how easily this may be applied in the context of nuclear technology.

It is also possible to adapt the tool to a specific context. But this can only be done by somebody who knows the tool and has applied it at least once.

²³ For more details, see <http://mande.co.uk/special-issues/most-significant-change-msc/>

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