



PMD Pro1

A Guide to the PMD Pro1: Project Management for Development Professionals – Level 1

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Introduction

The Guide to PMD PRO1 provides an introductory, platform-independent exploration of the principles and terminology of project management within the context of the international development sector. It is intended for an audience that includes:

- Project managers and team members who are new to project management;
- Project managers and team members who are new to the international development sector;
- International development sector professionals who intend to pursue professional credentials in project management;
- Consultants/contract staff operating in the international development sector.

The Guide is organized in two parts:

Section One:

- The Project Manager
 - Major roles and responsibilities of project managers
 - Competencies and skills required of project managers
 - The relationship between managing projects, programs and portfolios
- The Project Life Cycle

Section Two:

- The Phases of the Project Life Cycle
 - Project Identification and Design
 - Project Initiation
 - Project Planning
 - Project Implementation
 - Project Monitoring, Evaluation and Control
 - End-of-Project Transition

Decisions regarding the scope of the PMD Pro1 content have been made based on two principle assumptions.

Assumption One: Project managers in the development sector share many fundamental challenges, despite the unique organizational cultures in which they work.

It is widely acknowledged that the work of development organizations can vary considerably and that each organization is unique. These differences are a result of many factors, including:

- Organizational history
- Administrative systems
- Donor relationships
- Project implementation strategies
- Monitoring standards
- Program considerations (agriculture, health, microfinance, housing, education)

- Cultural norms
- Geographic areas of operation
- Operational context (relief, reconstruction, development, advocacy)

Nevertheless, while there are significant differences between organizations, they all share one thing in common – a culture of management that pervades their work. Development organizations write project proposals, recruit project officers, implement projects, monitor project progress, evaluate project impact, and attract support by showcasing project success.

This observation forms the basis of the first underlying assumption of the PMD Pro1 is that organizations, because of their shared culture of project management, also share common challenges, risks, and opportunities that can be addressed through improved project management practices. The PMD Pro1 explores these commonalities, examining the foundational skills that are will be of practical relevance to project managers regardless of the specific context in which they work.

Assumption 2: Project managers in the development sector can learn from the best practices of their colleagues working in other sectors.

The pervasive culture of projects is central to the way development organizations do their work. This culture of project management is not limited to the field of international development: sectors such as construction, software development, public works, extractive industries and others also manage the majority of their work through projects. The international development sector, like these other sectors, shares the challenges related to:

- delivering project results in the context of time, budget, quality, scope, risk and benefit constraints;
- managing projects that are often implemented via contractors, sub-contractors and vendors; and
- identifying potential risks and establishing systems to avoid and address these risks and ensuring that the intended project benefits are delivered.

Nevertheless, while the culture of project management pervades many sectors, several characteristics make project management in the international development sector unique and, at times, especially challenging. For example:

- International development projects are responsible not only for delivering outputs, but also for delivering outcomes that promote social change and behavior change that lead to improvements in the well-being of the project's target populations.

- International development projects aim to address complex problems of poverty, inequality and injustice.
- International development projects are managed in an array of challenging contexts (limited resources, high risks, complex procurement networks, unstable political/financial environments).
- Project implementation is often managed through a complex array of stakeholder relationships (partner agencies, government ministries, community-based organizations, contractors, global consortia).
- The process of the approach is often as important as the outcomes themselves (participation, rights-based approaches).
- Transferring knowledge and learning to the target population is a priority during each and every phase of the project.

The challenge facing development organizations is to recognize the value of cross-industry tools, techniques and standards of project management, and to apply them within their context.

High-quality, comprehensive project management practices are indispensable to helping organizations manage organized, focused, effective and efficient projects. More specifically, strong project management helps ensure that:

- Projects are completed on time, on budget, and within the scope and quality prescribed by the project implementation plan – despite the complex and challenging contexts within which they are managed.
- Beneficiaries receive optimum value from project investments and projects achieve the objectives and goals to which they aspire.
- Projects adapt flexibly to the difficult environments in which they work (i.e. insecurity, scarce resources, high risks, multiple stakeholders), managing changes that enhance the ability of the project to achieve its results.
- Projects meet the accountability commitments to beneficiary communities, donors and other key stakeholders.

Section One: Chapter One

The Project Manager

Role and Responsibilities of the Project Manager

The purpose of project management is to plan, organize and manage resources to bring about the successful completion of specific project goals, outcomes and outputs.

Starting from this definition, the project manager is responsible for ensuring the overall success of the project. This does not mean, however, that the project manager is personally responsible for completing the project work. In fact, this is seldom the case in the development sector.

Instead, the responsibility of the project managers is to ensure that the work of the project is carried out. To perform this responsibility, project managers will need to:

- Work closely with an array of stakeholders to complete the work of the project. These stakeholders might include members of the project team, implementing organizations (governmental, non-governmental and others), contractors, community groups and others. These stakeholders must work together to design, implement and control all aspects of the project. Like many sectors, project managers in the international development sector often are required to manage stakeholders with whom they have no formal hierarchical relationship. It is not unusual for stakeholders within a single project to have different ethnicities, languages, cultures and even nationalities. The challenge of managing groups within this context can be especially difficult.
- Design and assign work packages of work to others, monitor their performance and check the interfaces between them and other work packages.
- Ensure that team members understand what they need to do, when it is due, and when the project manager needs to intervene.
- Identify project risks and set project expectations correctly.
- Address project challenges resulting from poorly planned schedules, inadequate budgets or unclear project scope.

Resolve internal conflicts among the project team. It is ultimately the project manager who is accountable if a project team has poor morale and is missing deadlines.

- **Competencies of Effective Project Managers**

As one would expect, the skill level a project manager needs to effectively manage a project will vary in accordance to the size, complexity and risk of the project. Take, for example, the two projects outlined below:

	Project One	Project Two
Size	\$US 5,000	\$US 930,000
Complexity	Objective: Build three latrines Activity: - light construction Calendar: one month Communications: Village members and donor Personnel: Volunteers Quality Norms: Ministry of health guidelines	Objective: Rehabilitate community health system Activities: - construction - training - procurement systems - behavior change Calendar: three years Communications: 10 communities, ministry of health, donors, implementing partners Personnel: Local NGOs, community health workers, government ministry staff Quality Norms: multiple standards
Risks	Onset of bad weather Insufficient volunteer labor	Currency fluctuations Political instability Funding sources are unreliable Procurement challenges

Clearly, the two projects above differ substantially in terms of size, complexity and risk. However, despite these differences, both would benefit from a project-based approach in order to ensure that:

- the activities are comprehensively identified, prioritized and sequenced;
- the time schedule is thorough and identifies the inter-related elements of the project plan;
- procurement processes (for both materials and contractors) are identified and implemented;
- communications norms for appropriate stakeholders are in place and executed;
- personnel systems exist for staff, volunteers, and implementing partners;
- risks are anticipated and monitored;
- a system is in place to ensure that the projects meet acceptable quality standards; and
- a change management process is in place and managed.

Nevertheless, while projects of all sizes can benefit from a project-based approach, that does not mean that all project managers can competently manage any project regardless of size, complexity and risk. Project managers will need to gain experience and deepen their knowledge, attitudes and skills in all project management competency areas as the projects they manage progressively evolve in terms of their complexity, value and risk.

So what are the competencies (knowledge, skills, attitudes and behaviors) that project managers require to manage successful development projects? While multiple competency

models exist for project managers, the PMD Pro1 model organizes competencies into four areas:

- **Technical** – these are often referred to collectively as the ‘science’ behind project management. Can the project manager identify, select and employ the right tools and processes to ensure project management success?
- **Leadership/Interpersonal** – often referred to collectively as the ‘art’ of project management. For example, how does the project manager communicate, inspire, and resolve conflict?
- **Personal/Self-Management** – the project manager's ability to self-manage. For example, can the project manager effectively prioritize, manage time and organize work?
- **International Development Specific** – the ability to apply the technical, leadership/interpersonal and personal/self-management competencies in the context of international development projects. For example, can the project manager identify, select and employ the right tools and processes that are unique and specific to the international development sector needs and also within the cultural context of the project?

In addition to these four general competency areas, project managers should also possess the competency to work effectively within the culture of their own organization. Can the project manager navigate his/her specific organization's management framework, organizational culture, business processes/systems and human resources networks? The organization's culture defines its identity (brand) and distinguishes it from other organizations managing similar projects.

Illustrative Elements for Each of the Four Competency Areas

Competency Area	Illustrative Elements
Technical	✓ Proactively manage scope to ensure that only what was agreed is delivered, unless changes are approved through scope change management ✓ Comprehensively identify the activities required to ensure that project deliverables are achieved ✓ Manage the overall schedule to ensure work is assigned and completed on time and within budget ✓ Define and collect metrics to give a sense of how the project is progressing and whether the deliverables produced are acceptable ✓ Identify, track, manage and resolve project issues ✓ Proactively disseminate project information to all stakeholders ✓ Identify, manage and mitigate project risk ✓ Establish procurement systems to manage materials, contracts and project logistics. ✓ Ensure that project deliverables are of acceptable quality
Leadership/Inter-Personal	✓ Vision the ‘big picture’ of a project within an organization portfolio ✓ Champion the project (promoting buy-in) ✓ Communicate vision – setting reasonable, challenging and clear expectations for people, and holding them accountable for meeting those expectations ✓ Provide timely and helpful performance feedback to team members ✓ Facilitate team building so that people work together well, and feel motivated to work hard for the sake of the project and their other team members

	✓ Communicate proactively (verbal and written), including active listening ✓ Motivate team members to willingly follow direction and achieve goals
Personal/Self-Management	✓ Organizational skills ✓ Attention to detail ✓ Ability to multi-task ✓ Logical thinking ✓ Analytical thinking ✓ Self-discipline ✓ Time management
International Development-Specific	✓ Understand the values and paradigms that influence the project management process in the international development sector (rights-based approaches, integrated human development, participation, etc.) ✓ Understand the perspectives, roles and loyalties of the different stakeholders involved in development projects ✓ Understand and navigate complex development environments ✓ Work effectively with an array of implementing partners ✓ Understand how multiple projects can jointly contribute toward intermediate outcomes and higher-level goals ✓ Cope with the unique pressures and stresses often encountered in international development environments ✓ Exhibit cultural sensitivity when working with project team members and stakeholders ✓ Address safety and security concerns/risks associated with the project ✓ Understand risk management and provide appropriate contingencies in changing circumstances

To succeed, project managers need to develop their competencies in each of these four areas. As project managers' responsibilities increase from relatively simple projects to more complex projects, the requisite knowledge, skills and behaviors in each of these competency areas will need to increase commensurately. Furthermore, one of the most nuanced abilities that project managers develop over time is the art of knowing what alternatives exist to address a challenge (budget over-runs, team conflicts, ambiguous roles, shifting schedules, unanticipated risks) and identifying which competency (tool/skill/process) would be most appropriate to address the unique needs of each situation.

Managing Projects, Managing Programs and Managing Portfolios

Within the development lexicon, the terms 'projects, programs and portfolio' are used frequently. The definitions of these terms, however, are seldom consistently used and in many cases the terms are used interchangeably. In the absence of a rigorous definition of these terms, the roles and responsibilities of the project manager as they relate to each of these levels of management are unclear and subject to misinterpretation.

Project management is the discipline of planning, organizing and managing resources to bring about the successful delivery of specific project goals, outcomes and outputs. The primary challenge of project management is to achieve all of the project goals, outcomes and outputs, while honoring the preconceived project constraints related to scope, budget, schedule and quality. The project manager is responsible for ensuring the overall success of the project and seeing that deliverables arrive on time, on scope, on budget and within acceptable quality levels.

Program management is the process of managing a group of related projects in a coordinated way to obtain benefits and control not available through managing them individually. Programs, unlike projects, are often managed via centralized management which aims to coordinate a group of projects to achieve the program's strategic objectives and benefits.

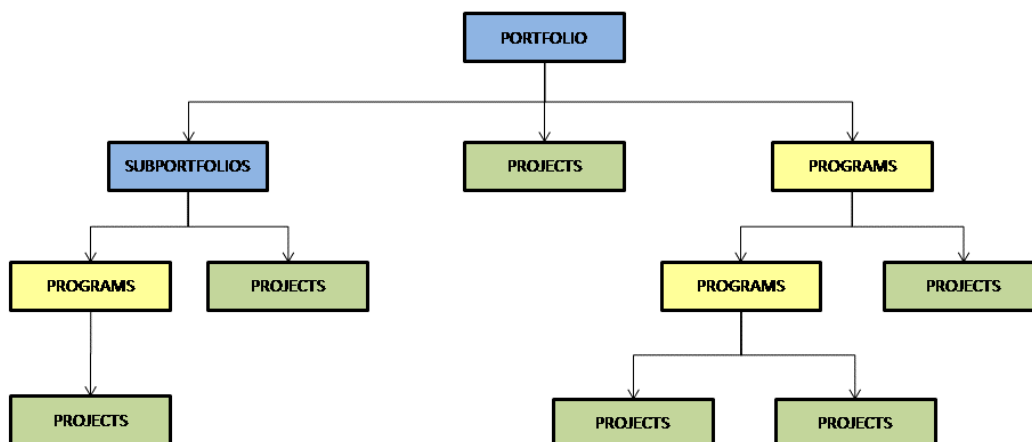
Program management is especially important within the development sector because projects managed via a coordinated program have the potential to realize change (or benefits) that would be impossible if they were managed separately. Some areas of potential program alignment include:

1. **Geographic Area** – Projects often work side by side in the same region or throughout the country, and one of the central concerns of a program manager will be how the resources of multiple projects working in the same geographic area can be leveraged to have a greater impact than each would have in isolation. Most frequently, programs work in a single country, although opportunities exist for multi-country or global programs.
2. **Sector Intervention Areas** – While projects generally tend to work in a single sector with a shorter time frame, programs often encompass multiple sectors and work within a longer time frame.
3. **Objectives** – By coordinating the goals and objectives of multiple projects through a coordinated program, an organization has greater potential to achieve the higher level goals towards which it strives.
4. **Funding** – It is not uncommon for single organizations to work with multiple donors in a single geographic or sectoral area. By coordinating projects in a single program, organizations can leverage more from its resource base of funding sources.
5. **Target populations** – Organizations often overlap between targeted populations for projects in different sector areas (health, water, education, etc.). Coordinating these projects in a program allows the organization to link them via common indicators and shared resources.
6. **Management** – While the staff of individual projects will focus on implementing the activities that contribute directly to the outputs and outcomes within their scope, at the program level, managers will focus on the challenge of coordinating projects, best leveraging resources of multiple projects, and increasing the impact of the program.

Portfolio management oversees the performance of the organization's collection of project and programs. Portfolios are generally managed by a senior team at the highest level of an organization or a specific business unit of an organization (regional office or headquarters). Portfolio management is not concerned with day-to-day project tasks; but focuses instead on selecting, initiating and managing the overall collection of projects in a way that addresses the strategic objectives of the organization. Portfolio management often includes choosing which projects not to do, which to start earlier, or which to stop doing in order to optimize the strategic fit of the projects being undertaken to fulfill the organization's mission.

Most often, portfolio management is not the responsibility of the project manager. However, this does not mean that project teams do not need to concern themselves with issues related to portfolio management. The resources available to invest in projects are often limited or scarce, and various parts of the organization may be in competition for those resources. The portfolio management process therefore attempts to prioritize and balance opportunities and risks against demand and supply for resources in such a way that the organization's objectives are met. Given this competition for limited resources, project managers and their teams should be able to articulate where their projects:

- Support the strategy of their organization; and
- Contribute value to the organization's programs and/or portfolio.



Relationship between Portfolio, Programs and Projects

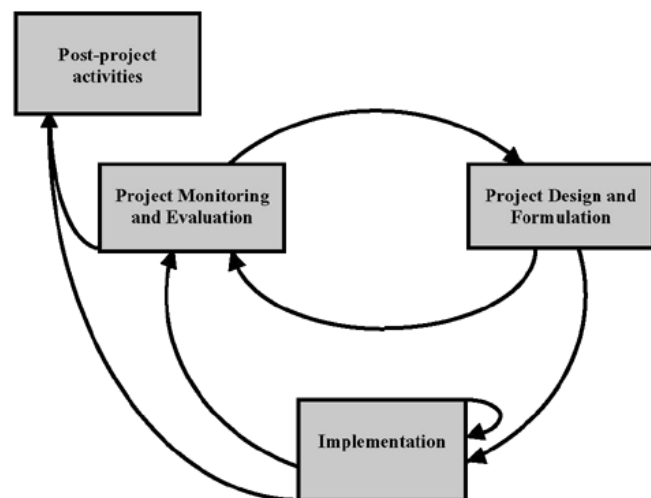
Section 1: Chapter 2

The Project Life Cycle in the International Development Context

The Project Life Cycle

Many development organizations have developed models that outline their interpretation of the life cycle of their projects. These project life cycle diagrams, although similar in terms of their phases and intended purpose, generally differ in terms of design and terminology.

This image, for example, represents the life cycle design for the Food and Agriculture Organization (FAO), and is just one approach that international development organizations employ to communicate their project life cycle designs. In this case, the cycle is represented by a series of interconnected loops. Other organizations have developed project life cycles that are represented by other shapes, including circular models, linear models, or modified spiral models.



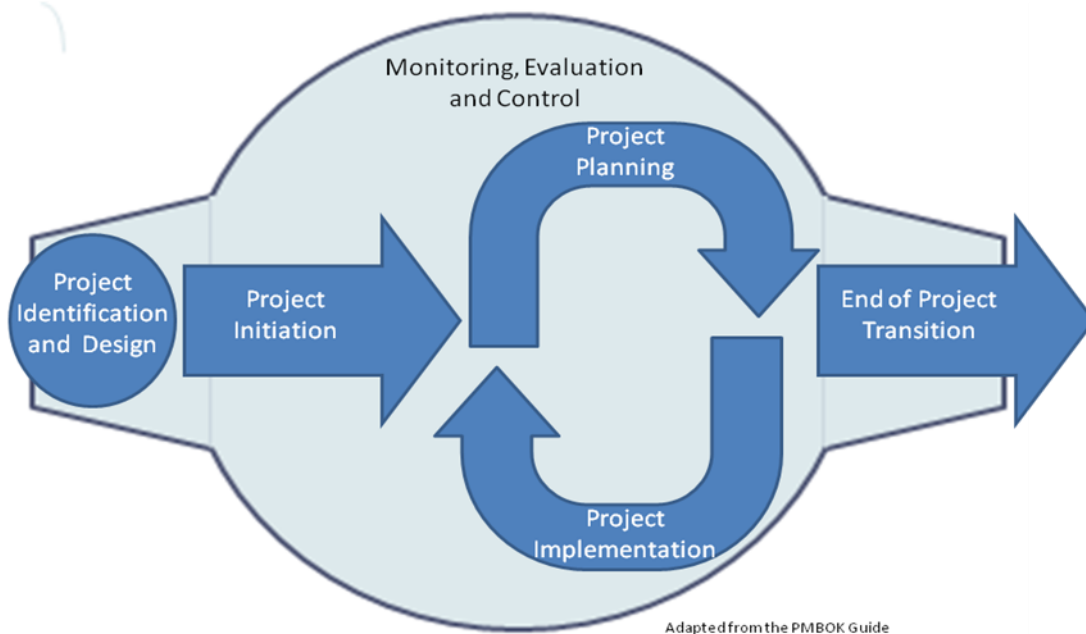
While recognizing that project life cycles differ between development organizations, the PMD Pro1 concurs that the underlying value of project life cycle models (regardless of their particular design) is that they serve as a framework that helps to:

1. define the phases that connect the beginning of a project to its end;
2. identify the processes that project teams must implement as they move through the phases of the project life cycle;
3. illustrate how the project management life cycle can be used to model the management of projects; and
4. model how projects work within an environment of 'constraints', where changes to any one constraint will result in consequential changes to the other project parameters.

For that reason, the Guide to the PMD Pro1 subscribes to a generic project life cycle model for development projects. That model serves as the framework for the contents of this guide. This generic project life cycle model is not meant to replace other models, nor serve as a standard for the sector. Instead, it is a learning aid that helps explain the phases of project life cycle management, the relationships between these phases and the responsibilities of project team

members through the entire project cycle. The PMD Pro1 generic project life cycle model includes six phases:

- Project Identification and Design
- Project Initiation
- Project Planning
- Project Implementation
- Project Monitoring, Evaluation, and Control
- End of Project Transition



The Importance of a Balanced Project Management Approach:

It is extremely important to ensure that the management of a development project retains a balanced focus on the full spectrum of phases in the project life cycle, from project identification and design, through initiation, planning, implementation, monitoring, control and the end of project transition. While this observation might seem intuitive, often projects are imbalanced in their focus on a single phase (or group of phases) of the project life cycle, while neglecting to develop capacity in other project phases.

For example, many development organizations tend to invest a disproportionate level of resources in the following areas:

- **Project Design** – As a result of the challenging environments in which they work and the complexity of the problems which they aim to address, international development organizations tend to invest in tools, processes, systems and skills for program and project design. These investments aim to increase their capacities to assess situations; analyze data, identify theories of change, formulate objectives, and explain the underlying logic that might include multiple inter-related projects. These processes often take place before the official approval of a project and, in some organizations, are treated as a separate project, with its own set of phases. More frequently, however, the project identification and design phase becomes a process group of its own and is a project phase area in itself.
- **Monitoring and Evaluation** – Whether it be as a result of pressure from donors, or the admittedly difficult task of attributing correlation and causality between project outputs and social change, development organizations have made efforts to develop the capacity to measure the impact of their project investments. An extensive body of knowledge exists regarding best practices on indicators, minimum standards, monitoring practices, evaluation approaches and more. Furthermore, this body of knowledge is supported by communities of practice, training events and technical units focused on strengthening capacity in this area.

In fact, these areas of project management are of such importance into the culture of project management that they are known by the acronym DM&E, project Design, Monitoring and Evaluation. This heavy emphasis on project DM&E in development projects is positive in many ways. It reflects the commitment of organizations in the sector to fully understanding the problems they address, the logic behind their intervention and the systems with which they measure their progress. The heavy emphasis on project DM&E also underscores the particularly strong capacity international development organizations have in these three areas (a capacity that is often more deeply developed in the development sector than it is in organizations managing projects in other sectors).

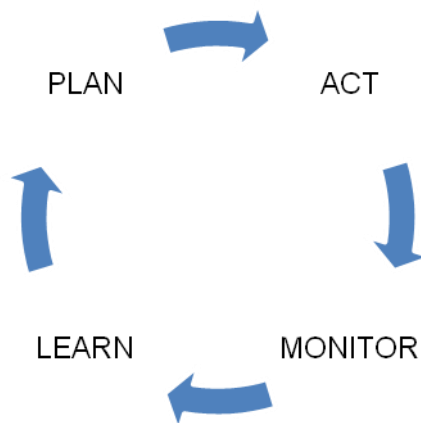
Nevertheless, while strong DM&E are necessary elements of the project life cycle, they are **not sufficient** to assure project success. To succeed, projects must be managed through an approach that is both balanced and integrated. Organizations must develop their capacity in each of the project life cycle phases.

This same observation holds for any scenario where a project disproportionately focuses on one area which is consider of particular importance, while under investing in other critical phases of the project life cycle. For example, a project could skip over the identification and design phase, and jump directly into project planning. Other projects might be exceptionally well designed and planned, but not executed with comprehensive rigor and control. Each of these mistakes can

result in seriously challenged projects – largely due to a failure to manage the entire project life cycle through a balanced approach.

The Importance of an Integrated Project Management Approach:

While the project management life cycle is presented as a series of discrete phases with well-defined interfaces; in practice the phases interact and overlap throughout the project life cycle. For example, the Project Planning and Implementation phases are designed to form a circular feedback process while the Monitoring, Evaluation and Control phase is ever present in the background of each project life cycle phase, forming the iterative checkpoint against which all project actions are compared.

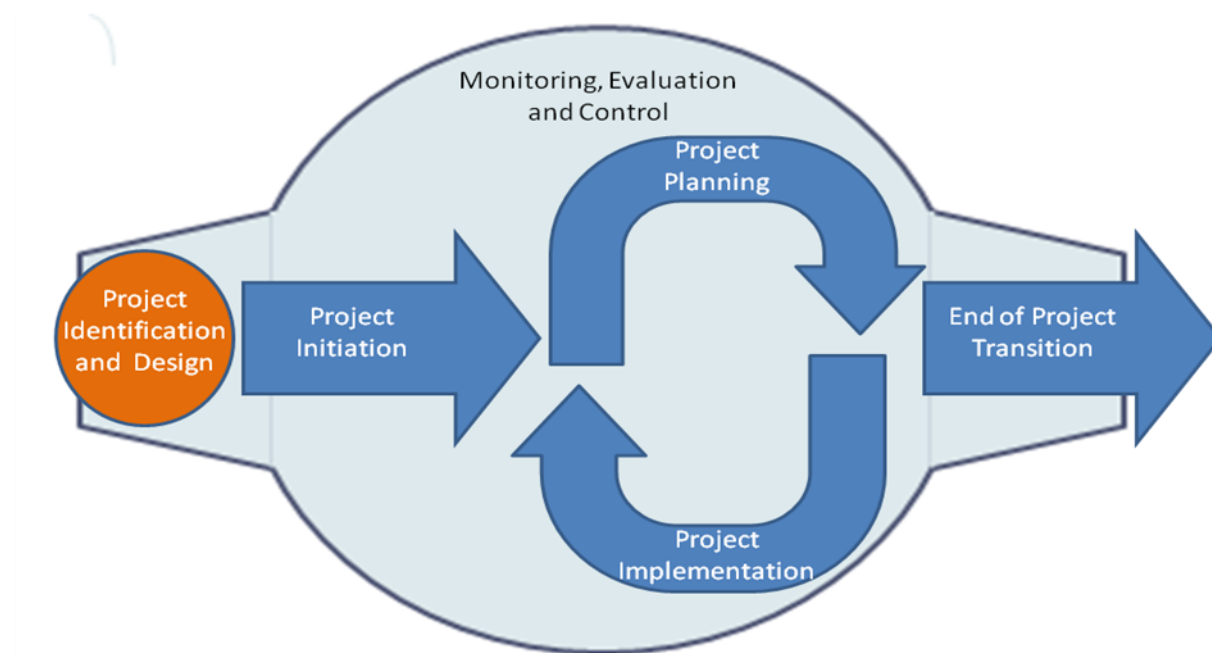


The iterative nature of integrated project management is central to the project learning cycle. Based on the Deming cycle, a four-step problem-solving process typically used in business process improvement (which follows a plan-do-check-act sequence), the steps in the learning cycle correspond to the processes involved in the phases of the project management life cycle. For example, the Project Planning

processes corresponds to 'PLAN;' the Project Implementation processes corresponds to 'ACT'; and the Monitoring and Evaluation processes corresponds to 'MONITOR,' and the Controlling processes (and updates to the project plan) correspond to 'LEARN'.

Section 2: Chapter 1

Project Identification and Design



Project Identification and Design

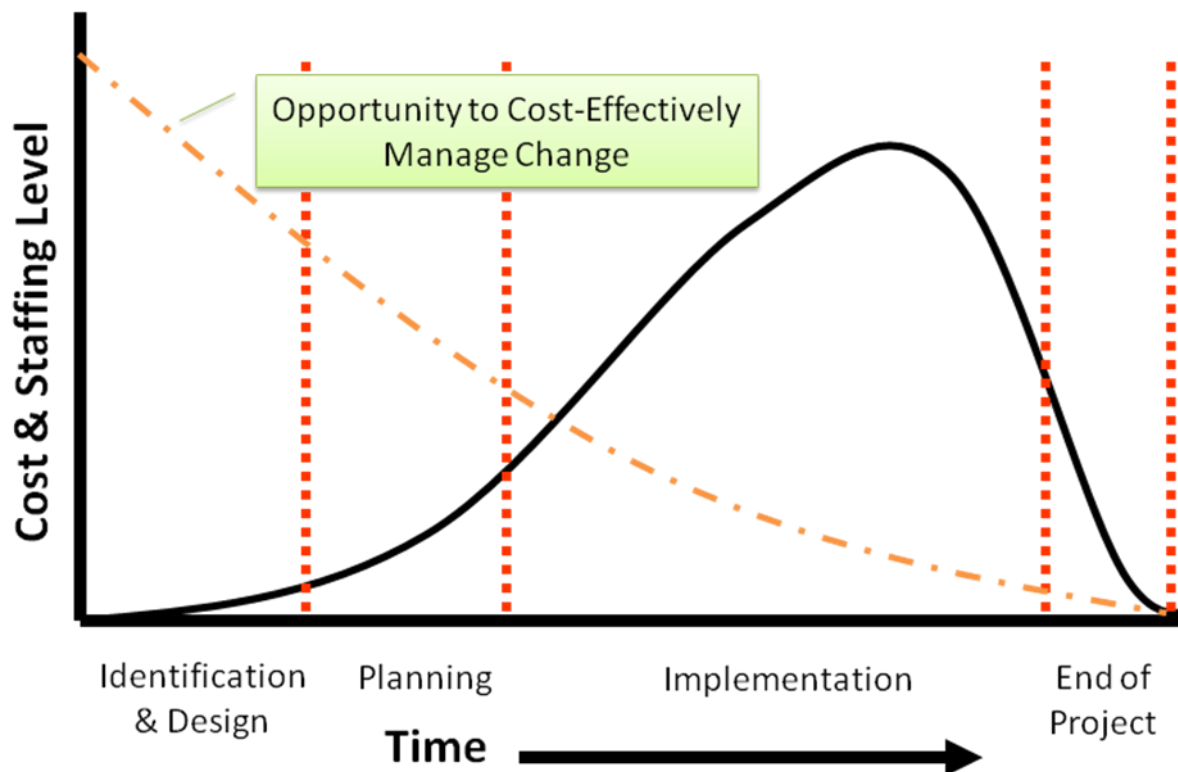
Why does the project identification and design phase matter? In the development sector this phase is indispensable in helping organizations answer the critical question: ‘Are we doing the right project?’

During the project identification and design phase, project teams and stakeholders (beneficiaries, implementing partners, and community groups) work together collaboratively and systematically to:

1. identify project ideas;
2. collect assessment data;
3. analyze the project assessment data;
4. develop the project logic.

One of the reasons the project identification and design phase is of such great importance is because it provides the most cost-effective opportunity to answer fundamental questions about the project parameters. Where will the project work? Who are the beneficiaries? What are the deliverables? What is the intervention logic? What are the major risks associated with the project? What is the underlying project approach/strategy? As the project moves forward in its

life cycle there will be other opportunities to revisit these questions. However, once project implementation begins (staff are hired, activities begin, budgets are allocated, and deliverables start to become tangible) the cost of changing these project parameters increases and these changes, in turn, become much harder to manage. Therefore, it is important that the project manager gather and process data to inform these decisions during the project identification and design phase and that the general approach to this phase is one that is open to creative exploration, brainstorming, visioning and debating of strategy.



The project identification and design phase also provides an opportunity early in the project life cycle for the project team to begin creating the norm of broad participation in its approach and interactions. During this phase, the project team can introduce participatory approaches aimed at defining problems, identifying alternatives, deciding strategy and plotting the project logic. While participatory approaches to project design and development can require more time and resources, the ultimate results will benefit from the following advantages:

- Stakeholders have the opportunity to take control of their own development process.
- The ultimate project design will be stronger than it would have been without participation.

- A sense of ownership exists among communities and stakeholders for the ultimate project plan and its implementation.

Identifying Project Ideas

Most development projects begin as an idea – an identification of a need or opportunity that is assessed, analyzed, and ultimately developed into a project plan which is managed through the project life cycle. But, where do ideas come from? Who identifies needs and opportunities? What evidence is required to support needs?

Definitions of need, whether explicit or implicit, are rationing devices that determine who gets what. Nevertheless, people, as individuals and as members of social and interest groups, have radically different ideas about what should be defined as a ‘need’ and what should not. Often, people’s judgments of need are highly subjective and beyond objective agreement. However, if needs are vague and ill defined, the intervention will be compromised. While these reflections on needs identification might seem theoretical, at their core they have real practical significance and implications – particularly for the poor and vulnerable families who stand to gain the most from successful projects.

Much of the discussion around needs identification evolves from Jonathan Bradshaw’s 1972 work which identifies four methods of defining and measuring needs:

- **Normative needs** are defined by the observations of experts, professionals and consultants who implicitly or explicitly compare the current situation to a set of professional or expert standards. For example, a local doctor might advocate for sewage connections to improve hygiene in a community.
- **Comparative needs** are defined by comparing the differences in people’s access to resources. This approach recognizes that that need is a relative concept and so any debate about need must take place in the context of a comparison between people. For example, members of fishing cooperative may observe that the fish stocks are higher in a nearby town with sanitation facilities.
- **Felt needs** are defined by the individual’s or the community’s own perception of need and any discrepancy between their situation and what they believe it ought to be. A felt need is likely to be subjective and could be better described as a ‘want’. Felt need is necessarily affected by the knowledge and expectations of the individual, which may be unrealistic and/or unaffordable. For example, mothers might express displeasure with the mess and sickly conditions that result from lack of hygienic sanitation – but might be unaware of alternatives that exist to change the current state.
- **Expressed needs** are defined as a felt need that has become a demand from an individual or a community. Expressed needs refer to what can be inferred about

community needs by observation of the community's use of services (like long waiting lists). For example, families might not only be displeased by the mess and sickly conditions that result from lack of hygienic sanitation but are now beginning to adopt systems to dispose of household waste (latrines) and refuse (garbage pits).

Bradshaw's thinking on needs' identification continues to be influential, relevant and useful. However, the criteria values should not be used uncritically. As organizations explore a community's needs, they will inevitably confront the challenge of ensuring that the needs' identification process is accurate and honest. Often individuals and groups already have an idea, based upon their observations and experiences, about what type of project or service is preferred by a particular international development organization. Development organizations need to guard against dynamics where the incentives lead individuals and groups to present their needs in ways that are more likely to fit the international development organization's priorities to ensure that they are selected for participation and benefit. For example, if an international development organization is known to primarily support water projects, then project participants are more likely to express their problems and solutions in ways that they anticipate will fit the potential interventions preferred by that development organization – a water project.

Collecting Assessment Data

Once a project idea has been identified, the next step will be to further assess the situation, collecting additional information to either confirm that the need exists to support the initial project idea, to suggest adjustments to the idea before moving forward or to point towards a more viable project idea. While the initial project idea might have been identified by a single point of reference (a donor, an expert, a community-based organization, village members), the assessment process will serve to explore the initial problem definition from multiple perspectives and to confirm whether the perception of need is shared by others.

Assessments broadly explore a wide number and variety of issues and provide information that, when analyzed, will inform priorities and identify interventions that will address the challenges in a target area. Assessment is an essential first step in the design of a project and is most commonly associated with the beginning of project design activities. However, assessment can/should also be conducted when expanding or changing the scope of an existing project. Regardless of when they take place in the project life cycle, assessments can take many forms, including (but not limited to) the following:

- collecting socio-economic information on the target community (and other stakeholders);

- gathering data on the current state of livelihood security of families;
- canvassing target populations about their current knowledge, behaviors and attitudes;
- mapping the geography and bio-physical assets of an intervention area;
- identifying the policies that might impact (positively or adversely) a potential project intervention.

Gathering and analyzing assessments helps organizations reach decisions about whether a project is needed and what type of project might be most suitable, along with the potential project deliverables and resources required to achieve them. While assessment is conducted in the preparation of a project design, it should also enable communities to better understand their own reality and to explore possibilities they exist to collaborate with other organizations. As mentioned previously, projects are often implemented through an array of partners, sometimes fully managed by local partner organizations. The assessment process has the potential to contribute to both the capacity-building of the implementing organization and to support their ability to develop project strategies themselves.

When conducting project assessments, three types of data may be used:

- **Secondary data** – Information available through published and unpublished sources, including literature reviews, surveys, evaluations, assessments, reports from NGOs, UN agencies, international organizations and government offices. Secondary data can be very cost-effective and should be the first sources accessed for assessment data. Unfortunately, access to secondary documents is often limited and care is needed in interpreting secondary data. Sometimes selective primary data collection will be necessary to verify the reliability and relevance of secondary data to the specific context, or to obtain deeper, more specific information.
- **Primary quantitative data** – In situations where secondary sources do not provide sufficient assessment information, organizations can collect data via quantitative assessment approaches (surveys, questionnaires, tests, standardized observation instruments) that focus on information that can be counted and subjected to statistical analysis. Quantitative data is most useful for classifying features, seeking precise measurements, analyzing target concepts, and explaining what has been observed. The shortcomings are that quantitative data sometimes misses the depth of the situation and does not capture essential contextual information.
- **Primary qualitative data** – In contrast to quantitative data approaches, qualitative approaches seek to capture participants' experiences using words, pictures and objects (and even non-verbal cues provided by data providers). Qualitative data consists of detailed descriptions of situations, focus group conversations, interviews, observed behaviors; and direct quotations from people about their experiences, attitudes, and beliefs. Qualitative data is most often collected as an open-ended narrative, unlike the typical question and answer format of surveys, questionnaires or tests. While qualitative methods generate 'richer' data, the collection and analysis processes can be more time-consuming and it is less easy to generalize results to a population.

Tools for Assessments

Secondary Data	Primary Qualitative Data	Primary Quantitative Data
Literature Review Records Review	Brainstorming Affinity diagrams Focus groups Participatory rural appraisal Mind mapping Nominal techniques Historical narratives Timelines Empowerment circles Venn diagrams Rich pictures Visioning Locality mapping Semi-structured interviews Key informant interviews Ranking exercises	Knowledge, practice and coverage surveys Standardized tests Standardized observation instruments Anthropometric measurements

Care should be used to select the most appropriate (and cost-effective) tools and approaches to collect information. While conventional wisdom indicates that primary data collection and quantitative data approaches are preferable to secondary sources and qualitative data, in practice it is clear that there is a place for multiple data sources and mixed methods in almost every assessment process.

While primary data collection can be specifically targeted to the precise needs of a proposed project, collecting primary data can also take a lot of time and money and involve many people. For this reason, many organizations recommend that the first round of assessment rely primarily on secondary data, and that subsequent rounds use primary data collection approaches to fill in the gaps which are not covered by secondary data.

Furthermore, while perceptions often suggest that qualitative data has less rigor than quantitative data, quantitative approaches often run the risk of raising expectations among local communities and partners, and can be especially costly. Qualitative data assessments, in turn, can be rigorous if planned and implemented with expertise, and can uncover revealing insights into the reasons behind the trends that are identified through secondary and quantitative approaches.

In the end, a combination of secondary and primary methods (including both qualitative and quantitative tools) in the same assessment can provide a more comprehensive, integrated

picture from which to make decisions. Before starting any assessment, one needs to ask 'How will this data be used?' If there is no acceptable answer to the question, do not proceed. Time and resources are too valuable to be wasted in useless exercises. Regrettably, many assessment exercises have collected extensive primary data which have produced large and minimally used reports. These reports are a poor use of organization resources, can be an intrusion on the lives of stakeholders, and create false expectations that can damage important partner relationships.

Moving from Project Assessments to Project Analysis

While the two terms 'assessment' and 'analysis' are often used interchangeably, they are distinct processes in the project identification and design phases. Assessment data is essential; however, it is usually not actionable without further analysis. The analysis process investigates the underlying causes and effects of specific problems or issues and involves reflection and examination of the ways in which these problems/issues are linked to each other. A comprehensive analysis of assessment data helps ensure that an organization does not begin to design and plan a project purely around the symptoms of poverty, injustice or environmental degradation, but that it also addresses the issues that create these symptoms.

As a first step, assessments are performed to broadly explore a wide number of issues to aid in providing information that will inform priorities. Analysis processes are then conducted to more deeply probe each of the prioritized issues so that the right information will become available to guide the rest of the design. More specifically, development projects tend to focus on three categories of analysis:

1. Stakeholder analysis
2. Problem analysis
3. Objectives analysis

Stakeholder Analysis

The first step in the analysis is to complete a stakeholder analysis. The stakeholder analysis involves:

- **Identifying the stakeholders involved in the project.** In most situations, a variety of individuals, groups and institutions are likely to have some level of interest in, or influence over, a project. These individuals, groups and institutions are the stakeholders important to the success of the project. Depending on the project these stakeholders might include government partners, NGOs, community-based

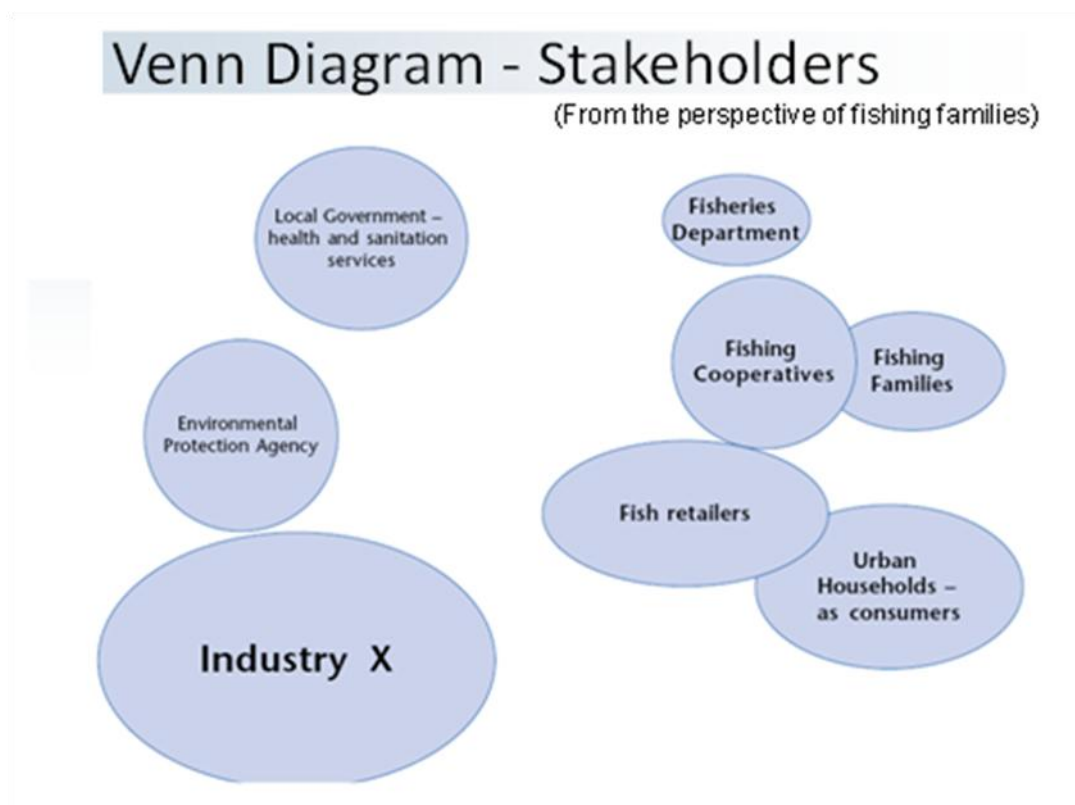
organizations, mobilized community and civil society groups, major businesses, employers in the area, community leaders, faith-based organizations and others.

- **Exploring the stakeholders' interests.** What might they gain or lose through the project? What are the stakeholders' expectations (both positive and/or negative)? What resources can they commit? What are potential roles for stakeholders? What capacities do they hold? Are they supporters or blockers?
- **Mapping the influence of stakeholders.** Influence refers to the power that stakeholders have over a project such as their decision-making authority or their ability to influence project activities or stakeholders in a positive or negative way. What is the extent of co-operation or conflict in relationships between stakeholders? Who has the power to make change happen for immediate problems, underlying issues and root causes?

While there are many tools that contribute to the stakeholder analysis process, two in particular are especially useful:

Venn diagrams are created to analyze and illustrate the nature of relationships between key stakeholder groups. A Venn diagram is developed through the perspective of a single project stakeholder (or a group of project stakeholders.) Each circle in the diagram identifies a stakeholder involved in the project. The size of the circle used can help indicate the relative power/influence of each stakeholder, while the spatial separation is used to indicate the relative strength or weakness of the working relationship/interaction between different groups/organizations. Venn diagrams are commonly used as a participatory planning tool with target groups to help them profile their concept of such relationships.

The image below provides an example of the use of a Venn diagram to identify the power and influence of multiple stakeholders involved in fishery management in a community that borders a river. Note that the Venn diagram is portrayed through the perspective of one of the stakeholder groups, in this case, fishing families. The size and location of the Industry X circle indicates it is very influential but remote. Using the same logic, the Environmental Protection Agency is remote and clearly aligned to interests of the industry. Fishing cooperatives represent the interests of the fishermen and have a close relationship with retailers. The small size of the circle representing the Fisheries Department indicates it has little influence.



The Stakeholder Analysis Matrix uses the outcomes from the Venn diagram (or other stakeholder influence mapping tools) to further identify, elaborate and communicate the interests, capacity and potential actions of project stakeholders. Unlike the Venn diagram, the matrix allows a further narrative that provides additional data concerning stakeholders, their interests, their influence and potential actions to address the stakeholder interests.

The table below provides a stakeholder analysis matrix for the fishery management project introduced in the Venn diagram above. The matrix helps identify ways to engage stakeholders appropriately so that they can participate meaningfully at all stages of the project life cycle. For example, the table identifies potential risks to project success that comes from poorly regulated textile industries. Recognizing this possible threat, the project design team can take steps to better ensure project success – perhaps by meeting with textile industry leaders to negotiate solutions, or to identify ways to involve them in the project.

Stakeholder and basic characteristics	Interests and how affected by the problem	Capacity and motivation to bring about change	Possible actions to address stakeholder interests
Fishing families 20,000 families, low-income earners, small-scale family businesses, organized into informal cooperatives. Women actively involved in fish processing	• Maintain and improve the means of livelihood • Pollution is affecting volume and quality of catch • Family health is suffering, particularly children and mothers'	• Keen interest in pollution-control measures • Limited political influence, given weak organizational structure	• Support capacity to organize and lobby • Implement pollution • Identify and develop alternative income sources
Textile Industry Medium-scale industrial operation, poorly regulated and no unions. Well connected with ruling party. Poor environmental record	• Maintain/increase profits • Some concern about public image • Concern about costs of environmental regulations enforced	• Have financial and technical resources to employ new cleaner technologies • Limited current motivation to change	• Raise their awareness of social and environmental impact • Mobilize political pressure to influence industry behavior • Strengthen and enforce environmental laws
Households 45,000 households discharge waste and waste water into river also used as source of drinking water and fishing	• Aware of textile industry's pollution and impact on water quality • Want to dispose of own waste away from household • Want access to clean water	• Limited understanding of the health impact of their own waste/waste water disposal • Appear willing to pay for improved waste management services	• Raise awareness among households of the implications of their own waste disposal practices • Work with communities and government to address water and sanitation issues.
Environmental Protection Agency: Etc.	Etc.	Etc.	Etc.

Finally, it is important to recognize that many international development organizations do not implement their projects directly. Instead, they implement through other NGOs, community organizations and/or government agencies. In these situations, it is not unusual for organizations to conduct a further level of stakeholder analysis that examines the institutional capacity of the organizations with whom they will be working. For example, they might want to

learn more about the strengths/weaknesses of the organization's staff, financial systems, infrastructure, physical plant, logistics systems, strategic planning, leadership, etc.

Data Analysis

The chances are that the data collected through project assessments have already led the project team and its stakeholders to focus on what appears to be a central group of key issues. The data analysis process provides an opportunity to further examine, confirm or adjust this initial thinking.

A variety of techniques and tools exist to conduct data analysis. Each is designed for a specific purpose and the project team should select their techniques/tools based on the intended objective of the analysis exercise. For example, if the task at hand aims to organize or classify assessment information, a different analysis tool will be required than would be the case if the objective were to promote more critical thinking by project stakeholders.

An illustrative list of the different analysis tools available to project managers (and examples of the purposes to which they might be employed) is found in the table below:

Objective	Tool
Organize information	Vulnerability matrices
Prioritize assessment data	Mind mapping Affinity diagrams Ranking exercises and matrices
Identify current state of service provision	Gap assessment analysis Mapping
Promote critical thinking by project stakeholders	Group discussions Focus Groups Workshops
Investigate cause and effect relationships	Force field analysis Problem trees

Each of the analysis tools in this table is important and useful. In practice, however, it is unlikely that a project team will use all of the analysis tools in each and every project it implements. Furthermore, it is not within the scope of this document to examine all of the analysis techniques and tools in depth. Project Managers, however, should feel comfortable:

- identifying the different tools that exist that can be used to accomplish the different objectives that are a part of problem analysis;
- choosing the best tool for each problem analysis objective; and
- developing (over time) the skills and behaviors needed to use the different problem analysis tools with a variety of groups.

Problem Analysis

Nevertheless, while it is out of the scope of the PMD Pro1 to explore all the data analysis tools in depth, there is one tool that merits further examination – the problem tree. There are several reasons why the problem tree is especially important when discussing problem analysis in the context of development projects:

- While the problem tree is not the only tool used to conduct problem analysis, it is one of the most widely used tools among international development organizations.
- The output of the problem tree tool is often used as an input when completing the next steps in the project identification and design process.

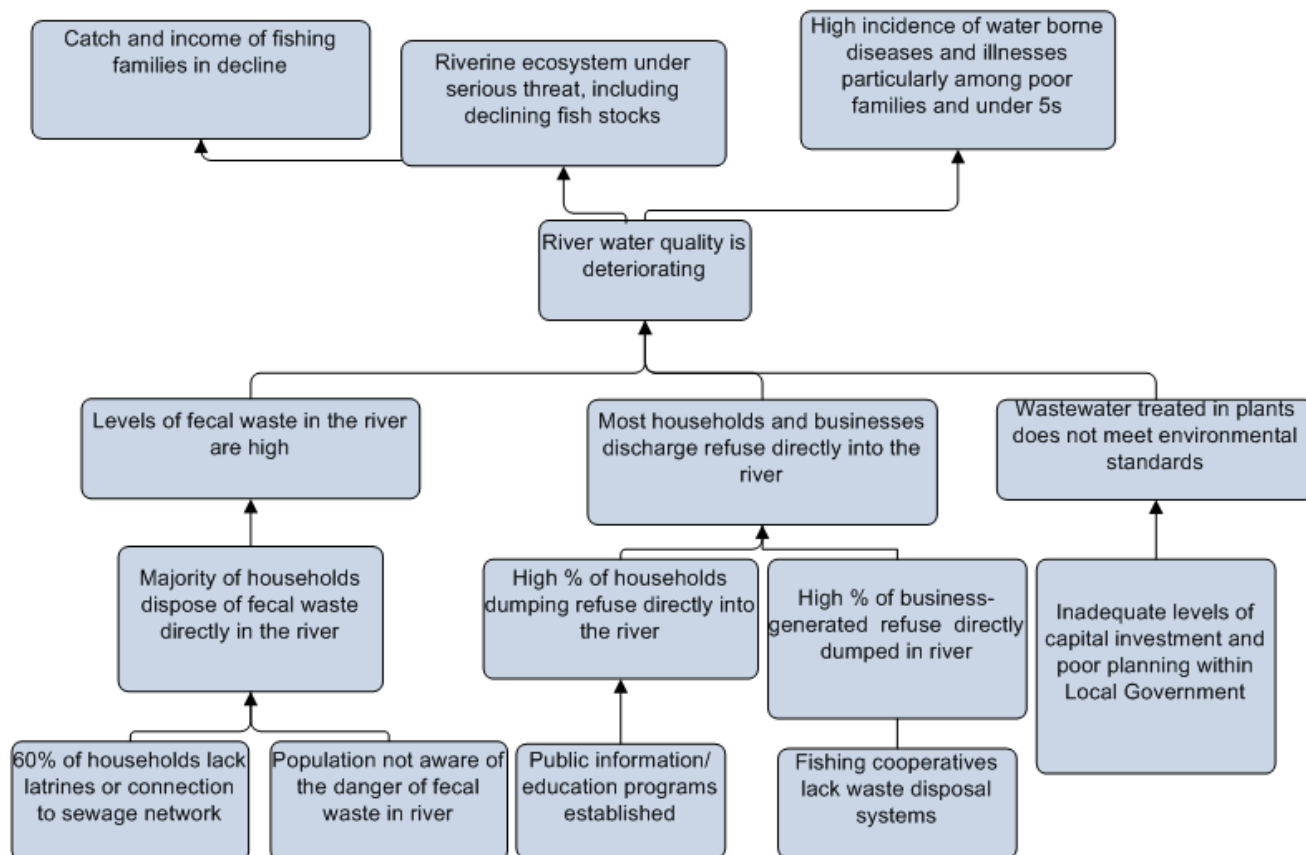
The problem tree provides a simplified but robust version of reality, identifying not only the core problem to be addressed, but also the effects of the core problem, and the underlying issues and root causes that contribute to the current state.

Problem trees begin with a ‘starter problem’ that can be either identified via an open brainstorm process with stakeholders or pre-identified, based on preliminary analysis of existing information. Once the starter problem is identified, the process of elaborating the subsequent problem tree is completed (preferably via a participatory group process) using these instructions:

- Problems which are directly causing the starter problem are put below (causes)
- Problems which are direct effects of the starter problem are put above (effects)

The guiding question behind the logic of the problem tree is ‘What causes that?’ If there are two or more causes combining to produce an effect, they are placed at the same level in the diagram. Cause-effect arrows are used to connect the levels of the problem tree.

The graphic below illustrates a problem tree of the causes and effects of deteriorating river water quality. Note that this diagram is a simplified representation of the situation – and it is not uncommon for problem trees to have multiple cause and effect levels surrounding the core problem. As a result, problem trees often become extremely complex and expensive to develop.

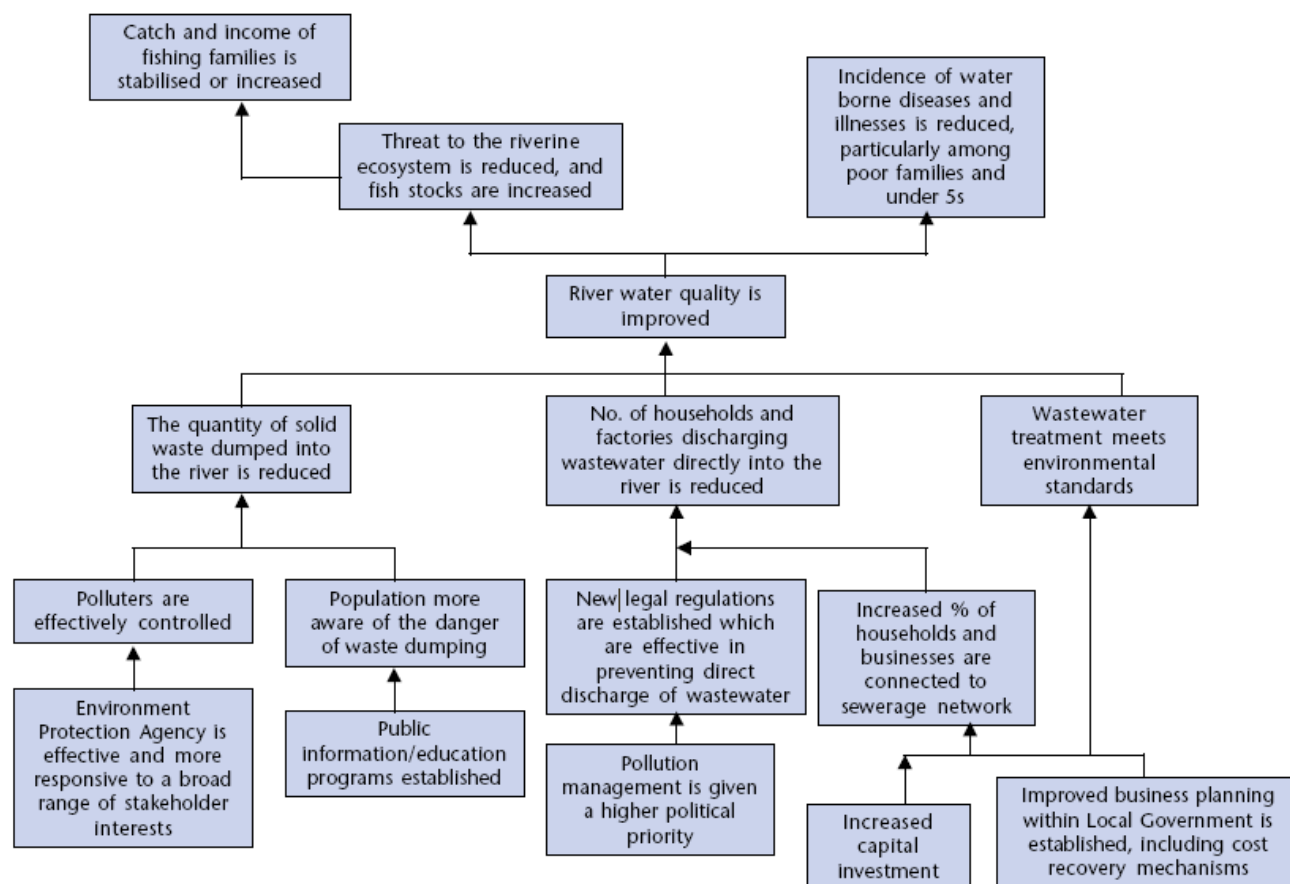


While this section focuses on the use of the problem tree technique for problem analysis, it should be noted that a viable alternative to a problem-based approach is the appreciative inquiry technique. Appreciative inquiry is a positive, assets-based alternative that seeks to identify/analyze the strengths (past and present), successes and potentials as a basis for moving forward. Development organizations frequently use appreciative inquiry as a facilitation technique that focuses on the resources and opportunities that exist among communities, rather than emphasizing the shortages, challenges and barriers that impede development.

Objectives Analysis

Once the problem analysis (or appreciative inquiry process) is complete, the next challenge is to identify the objectives of the eventual project. As is the case with all steps in the assessment and analysis processes, there are multiple tools that can be used to complete the objectives analysis process.

One of the simplest approaches to objectives analysis is the objectives tree. In its simplest form, the objectives tree is a mirror image of the problem tree – where each statement in the problem tree is transformed into a positive objective statement. While the problem tree displays cause and effect relationships, the objective tree shows the ‘means-to-end’ relationships. Once again, using the example of deteriorating water quality, the problem tree would become an objectives tree that resembles the following:



In practice, objectives analysis is seldom as simple as the objectives tree process would suggest. While the objectives tree might outline a clear and comprehensive intervention strategy for a project, it is seldom the case that an organization can implement all the activities outlined in the tree. At this point, the development organization should consider three critical strategic questions:

- Which elements of the objectives tree will be included in the project intervention?
- Which elements will not be included in the scope of the project?
- What are the criteria which will be used to make these decisions?

These questions will inevitably prove difficult and organizations will be confronted with numerous alternatives. They will need to make concrete decisions regarding the scope of the project. Where will the project intervene? What services will be provided? Who will be served?

Consensus on these questions may be elusive and the decision-making process has the potential to become quite complex and contentious. Consequently, it is important that the project team clearly identify and prioritize the multiple considerations that come into play when deciding what will be included in the eventual project, and what will be left out. Generally, these criteria can be grouped according to the following categories:

Category	Illustrative Criteria
Needs Prioritization	What branches/roots within the problem tree and objectives tree have received the highest level of emphasis during the assessment/analysis? Which branches/roots appear to have the highest potential for impact?
External Program Considerations	Who else is working in the proposed area of intervention? What are their program strengths? What existing activities complement the objectives tree analysis?
Appropriateness	Is the proposed approach acceptable to the target population and key stakeholder groups? For example, would a reproductive health program be appropriate and consistent with religious and cultural norms?
Institutional Capacity	What are your organization's strengths? What are your implementing partner capacity levels?
Resource Availability	Is funding available? Is there potential for growth? What opportunities exist to leverage resources?
Financial/Economic Feasibility	Is the rate of return for the investment acceptable?
Technical Feasibility and Sustainability	Can the proposed work be realistically accomplished? Can the work of the project be sustained and maintained over time?
Internal Program Considerations	What are the strategic priorities for your organization in the Region? Country? Other? What are the program strengths of your organization? What priorities does your organization have with regard to geography? Beneficiaries? Other?
Portfolio Considerations	Does the project 'fit' within the larger portfolio of projects in the organization?

Note that the categories above can be organized into two groups. The first group of categories (needs prioritization, external program considerations, appropriateness, institutional capacity) uses the information collected through the needs assessment and analysis activities to decide whether/how an organization will intervene. These categories examine whether there are priority needs that must be addressed; whether there are other programs providing complementary services; whether there implementing partners who have the capacity to execute the project; and whether the proposed activities are appropriate.

The second group of categories (resource availability, financial/economic feasibility, technical feasibility, internal program considerations) focuses less on the results of the needs assessment and more on criteria related to organizational considerations. For example, are there donors interested in financing the project? Are resources available? Does the organization have capacity in the proposed program area? Does the project fit within the organization's project portfolio?

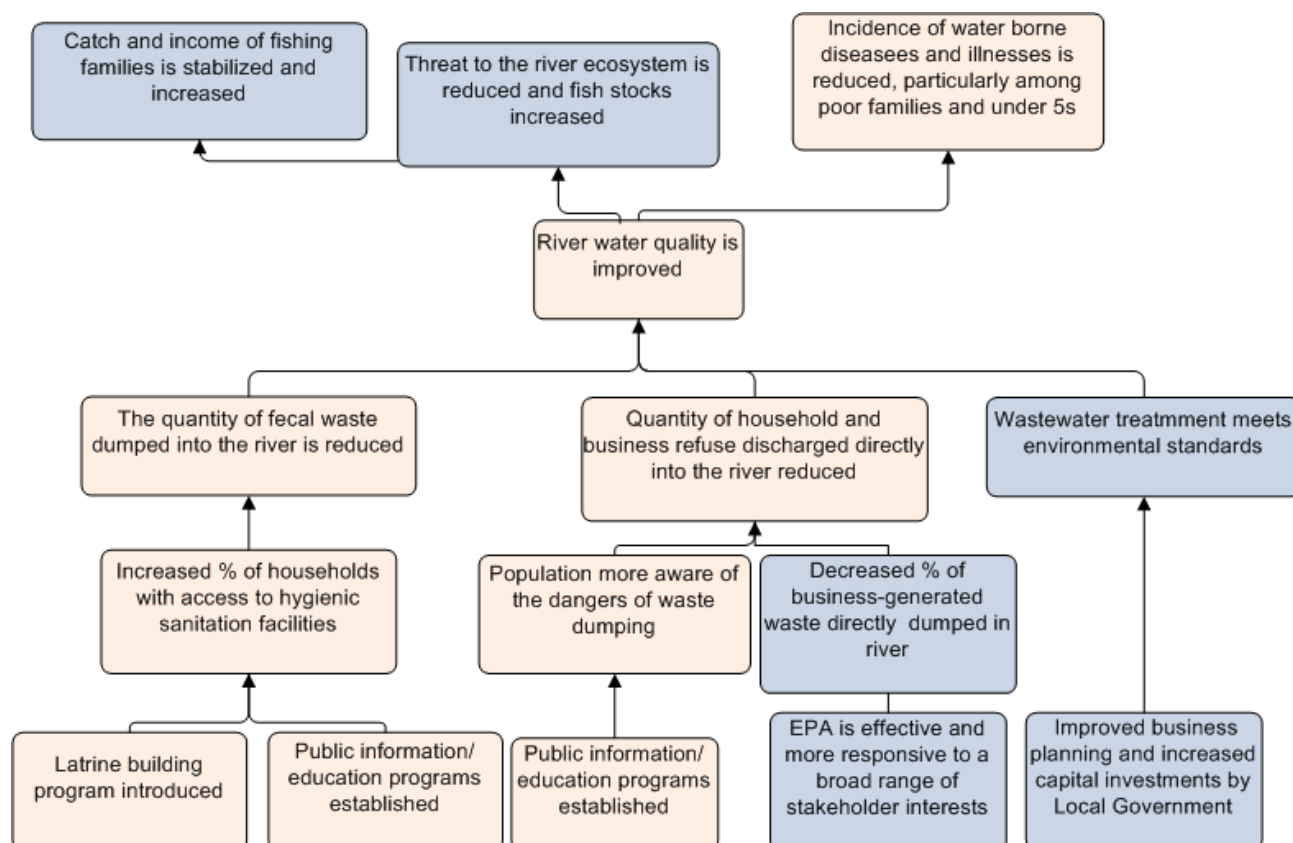
Once it is clear which proposed project objectives meet the criteria in the table above, the high-level project design can be put in place. As indicated previously, not all branches and roots in an objectives tree will be included in the project. Those areas that do not meet the criteria will fall out of the intervention mix.

Returning to the river water quality example, in that scenario the components of the project design was influenced by a number of considerations that included:

- **Needs Prioritization** – Households indicate an approach requires urgent intervention.
- **External Program Considerations** – Working on sanitation facilities suits the policy of both the local government and the implementing agency.
- **Existing Capacity Considerations** – The implementing organization lacks capacity in the area of waste water treatment engineering and has extensive experience in behavior change as it relates to disposing of household waste.
- **Resource Availability** – A major international donor's five-year plan for the region included resources for improving health in the region.

Based on these considerations, the decision was made for the project design to focus on hygienic sanitation facilities and increased awareness of the dangers of waste dumping. This strategic decision is illustrated thorough the alternatives tree which communicates the outcomes, objectives and goals (see the lighter colored boxes in the image below) which the

organization intends to pursue. The alternatives tree also communicates which elements will not enter into the scope of the project (the darker colored boxes in the image).



Identifying the Project Logic

Now that the assessment and analysis processes are complete, the next step in the logical framework analysis approach is to further develop the project logic. One of the principle tools used to establish the logic of development projects is the logical framework (logframe) matrix. The logical framework is an analytical tool used to plan, monitor and evaluate projects. It derives its name from the logical linkages set out by the planner(s) to connect a project's means with its ends.

There are a number of variations of logical frameworks models that are used in the development sector. Many of these models use different terms to identify the project deliverables. Some

identify goals and objectives, others identify Results and Outcomes. Similarly, there is no consensus on the number of levels in a logical framework matrix. Some organizations subscribe to a four-levels matrix, others have five.

The table below serves as a resource for comparing the logical framework models of several international donors and development organizations. The table is especially effective when identifying differences in the number of levels in each model, and variances in the use of terminology.

Logical Framework Terminology

NOTE: While this table compares terms across selected agencies, different terms are often used in a single agency

	Ultimate Change	Intermediate Change		Tangible Change	Specific Interventions	
AusAid	Goal/Impact	Purpose/Outcome	Component Objective	Output	Work Program/Task	
CARE	Program Goal	Project Final Goal	Intermediate Objective	Output	Activity	Input
EU	Overall Objective	Project Purpose	Specific Objective	Expected Result	Activity	Input
FAO	Overall Goal	Intermediate Goal	Purpose	Output	Activity	Input
NORAD	Goal		Purpose	Output	Activity	Input
USAID	Strategic Objective	Intermediate Result		Output	Activity	Input
World Bank	Impact/Goal/Development Objective		Outcome/Purpose	Output	Process/Activity	Input
World Vision	Program Goal	Project Goal	Outcome	Output	Activity	Input

Nevertheless, while there are variations between logical framework models with regard to the terms and their structure, they are all intended to serve the same underlying purpose. Logical frameworks are intended to serve as:

- systematic tools for organizing the project thinking and identifying relationships between resources, activities, and project results;
- a visual way of presenting and sharing the project intervention logic;
- a tool to identify and assess risks inherent in the proposed project design; and
- a tool for measuring progress through indicators and sources of verification.

Interpreting the Logical Framework Matrix

The logical framework matrix identifies and communicates the logical relationships in a project by tracking the vertical and horizontal reasoning that connects the levels of the matrix. The relationship between the elements on each level of the logical framework illustrates the vertical causal logic that will result in the achievement of the project's ultimate goal.

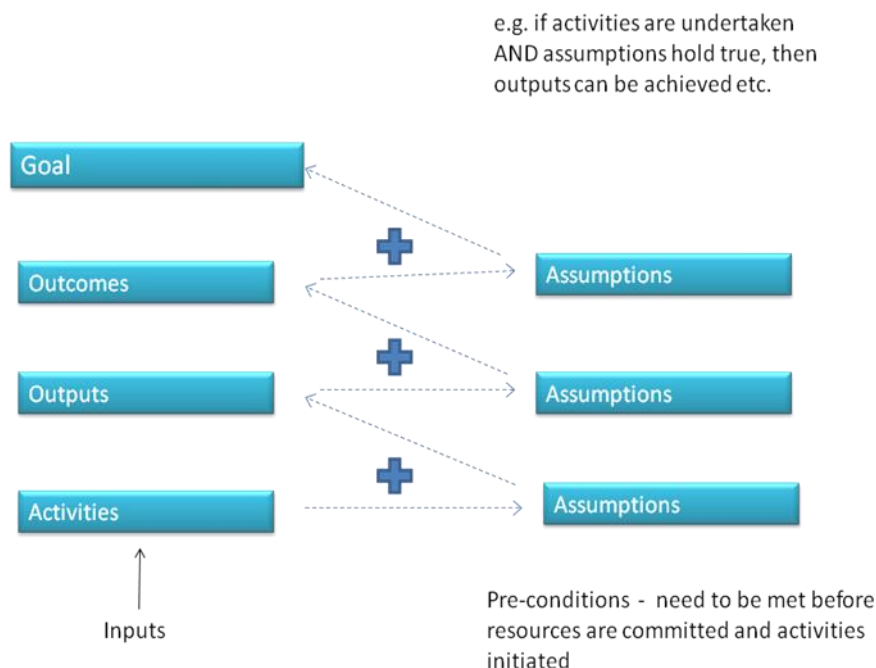
While there are many versions of project logical frameworks, the PMD Pro1 certification subscribes a four-level model of logical framework that employs the following vocabulary:

1. **Activities** are actions taken through which inputs (financial, human, technical, material and time resources) are mobilized to produce the deliverables (training, constructing, etc.) of a project for which staff can be held accountable and which, when aggregated, produce outputs.
2. **Outputs** are tangible deliverables resulting from project activities. They include products, goods, services and changes (e.g. people trained with increased knowledge and skill; quality roads built) that aggregate *and* contribute to outcomes.
3. **Outcomes** are what the project expects to accomplish at the beneficiary level (e.g. use of knowledge and skills in actual practice over time; transportation of goods on constructed roads over time) and contribute to population-level changes (reduced malnutrition, improved incomes, improved yields, etc.) that aggregate and help bring about accomplishment of goals and impact over time.
4. **Goals** are the highest level desired end results or impacts (transformation, sustainability, livelihood, well-being etc.) to which the project contributes (the ultimate objective in many logical frameworks)

Having defined the project goal, outcomes, outputs and activities the next question posed is ‘What external risks (outside the project's control) could potentially interfere with the project's causal logic?’ At each level of the logical framework, there are external factors that may affect the success of the project. For example, if there is another year of drought, the seeds may not germinate and so the output (a harvest) may not be realized. Or, if children are getting diarrhea because of poor drinking water, they may eat more, but they will remain malnourished.

These important external factors should be noted under the assumptions column. You may not be able to do anything about some of the risks (it is unlikely that a local NGO could stop a war from breaking out), but it is important to anticipate possible problems. The list of risks and assumptions may also help to explain why a project did not achieve all of its objectives.

The assumptions define the horizontal logic of the matrix, creating an ‘if-then’ relationship that maintains that if the assumptions in each level of the framework hold true then the project's vertical development pathway is likely to succeed, as illustrated in the following graphic:



After objectives have been established and associated risks and assumptions identified, the final element of the logical framework are the indicators of achievement and means of verification for each level of the logical framework.

An indicator is a quantitative measure or qualitative observation used to describe change. For the indicator to measure change it must have a baseline (a measure or description of current performance of the entity and/or a comparator) as an initial reference point. Baselines must be defined at or near the beginning of a project. Performance during project implementation is measured against a target (the improvements, change or achievement expected to happen during project implementation), taking into account the baseline.

Indicators depict the extent to which a project is accomplishing its planned inputs, outputs, outcomes and goals. They communicate in specific, measurable terms the performance to be achieved at each level of change. Indicators also help to remove vague and imprecise statements about what can be expected from project interventions, measuring them in terms of:

- **quantity** – the expected numerical representations of what is to be achieved;
- **quality** – the narrative or pictorial description of the expected achievements;
- **time** – the period over which the quantitative and qualitative changes will occur; and
- **location** – the geographic boundary of achievement.

Guidelines for indicator development at each logical framework level are listed in the following table:

Elements	Indicator Guidelines
Goal – The ultimate objective or highest end result or impact to which the project contributes	Indicators are longer-term impacts that are not specific to a single project. Rather, they are program, sub-sector, or sector objectives to which several other projects and variables will also contribute. Examples: transformation, sustainability, livelihood, and well-being.
Outcomes – What the project expects to accomplish at the beneficiary level that aggregate and help bring about accomplishment of goals and impact over time	Indicators at this level are crucial but can be more difficult to determine. Change is sought among extended beneficiaries, target populations, collaborating institutions and local partners. Examples: use of knowledge and skills in actual practice over time; transportation of goods on constructed roads over time, reduced malnutrition, improved incomes, and improved yields.
Outputs – The tangible deliverables resulting from project activities and which are largely under project managements control – that aggregate and contribute to outcomes	Indicators at this level are easier to specify than at the outcome level because they represent tangible goods and services to be delivered by the project. All outputs have to be accomplished by the end of the project's implementation period and according to the time schedule included in the project plan. Examples: people trained with increased knowledge and skill; quality roads built, goods delivered and services performed.
Activities – The actions taken through which inputs are mobilized to produce deliverables for which staff can be held accountable – and which, when aggregated, produce outputs	Not all international development organizations develop indicators at the activity level. Indicators at this level are almost directly related to the description of the activity itself. Examples: staff activities, actual expenditures compared to budget, use of equipment, training components and construction components.

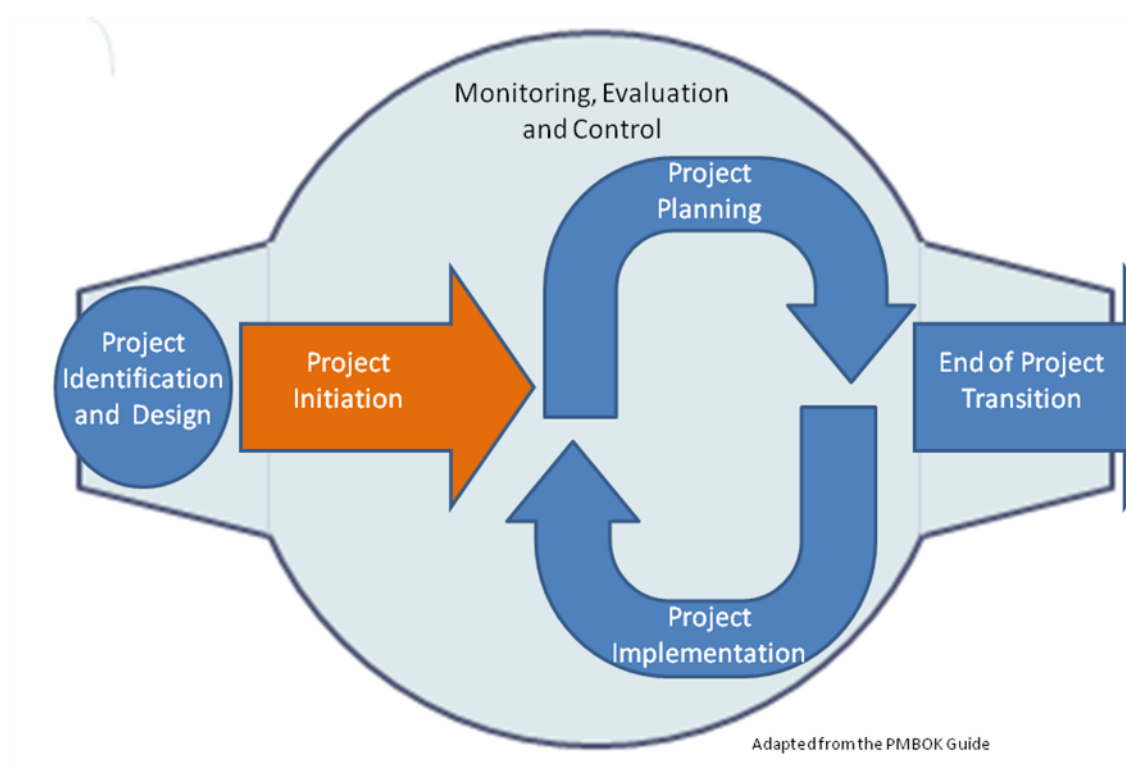
Once again, returning to the example of the river water quality project, a simplified logical framework matrix for that project would resemble the table below.

	Description	Indicators	Source of Verification	Assumptions
Goal	Improved health of under-fives	Incidence of water-borne diseases reduced by 30% by 2012, specifically among low-income families who live by the river	Municipal hospital and clinic records collected by mobile health teams	Clean river water is a key determinant of <5 health status The Clean River legislation is introduced by the EPA
	Improved health of river ecosystem			
	Improved quality of river water			

Outcomes	Reduced volume of fecal waste discharged into river	Concentration of e. coli reduced by 20% (compared to levels in + 2003) and meets national health and sanitation standards by 2012	Monthly water quality surveys conducted by the EPA and the River Authority	Up river water quality remains unchanged
	Reduced volume of household refuse directly dumped into the river system	60% of household fecal waste is disposed of via latrines or sewage connections	Annual sample survey conducted by the municipality between 2009 and 2012	Waste water treatment meets national standards Fishing cooperatives meet obligations to establish waste collection systems
	Description	Indicators	Source of Verification	Assumptions
Outputs	Quality latrines constructed and being used by community members	Number of latrines completed Number of latrines passing quality check Number of women, men, girls & boys using latrines regularly	Inventory data reported on the six-month progress report Data from form used by the community sanitation volunteers Key informant interviews	Raised awareness will assure latrine adoption and continued usage Use of latrines will adequately reduce volume of waste discharge into river
	Etc.	Etc.	Etc.	Etc.
Activities	Deliver public sanitation awareness campaign	Number of public meetings Number of people received information brochure	Staff and volunteer activity journal entries	
	Mobilize communities for latrine construction	Number of people in awareness meetings	Event attendance records (sign-in sheets)	
	Prepare engineering specifications for latrines	Engineering plans completed Plans approved by Ministry of Public Works	Copy of plan verified Ministry of Public Works approval form	
	Locate optimal sites for latrine construction	Number of sites identified Degree of client satisfaction with proposed latrine sites	Map of sites with rationale statements documenting client inputs	
	Etc.	Etc.	Etc.	

Section 2: Chapter 2

PROJECT INITIATION



Why Project Initiation Matters

The process through which a development project is initiated can vary considerably between organizations and can even vary within an organization, depending on the organizational unit, donor relationship, or program area in which the project is housed.

Nevertheless, regardless of the specific process employed, a formal initiation process provides a number of benefits:

- It helps to ensure there is sponsorship of the project.
- It formally authorizes the project team to mobilize resources (in time, money and human resources) for the project.
- It provides a 'green light' for the project (or a phase of the project) to begin activities and expend resources.
- It establishes clarity regarding the steps required to move forward with the project.

Generally, initiation processes are most commonly associated with the formal initiation of project activities. Consequently, within the context of the Project Life Cycle image, it is portrayed as a discrete phase that falls between the Project Identification/Design Phase and the Project Planning phases. However, initiation processes can also be established to initiate a particular

phase of a project. Take for example, the Project Identification and Design phase. In the development sector, organizations often expend extensive amounts of resources (staff, consultants, money, transportation) conducting assessments, analyzing data and developing project proposals – all before the project is formally approved. Consequently, it is advisable that initiation processes be established to assure that organizational resources are not spent exploring a potential project that does not have sponsorship, available resources, or in the absence of clarity on what steps need to be taken, to move forward in the project identification and design phase.

Most importantly, in the absence of formal project initiation processes, a project runs the risk of:

- Wasting time, money, personnel capacity and organizational capital pursuing a project that ultimately lacks commitment and support from key decision makers and/or ties-up resources that could be used to better effect on other projects;
- Demoralizing those who have worked hard to produce the proposal;
- Creating false expectations and hopes on the part of project participants, teams in the field and organizational partners;
- Damaging the credibility and reputation of the organization.

How to Avoid the ‘Perfected, but Rejected’ Scenario

One of the more significant risks that can arise when initiating a project is a situation where a proposed project is ‘perfected, but rejected’. In this scenario, considerable investments are made to develop project proposals which might be extremely coherent and logical, but which ultimately lack crucial support from key stakeholders. To avoid the ‘perfected, but rejected’ scenario, projects can take the following actions:

1. **Do not assume that your project has a green light!** Often in the context of development projects, there is no clear initiation process. In these situations, the risk exists that in the absence of a ‘no-go’ decision the assumption develops that the project has implicitly received an official green light to begin its work. These scenarios give the false impression of a decision having been made to begin expending resources (on assessments, analysis, proposal development, planning and/or implementation).
2. **Clearly identify the organizations and stakeholders involved in the ‘go/no-go’ decisions.** In the international development sector, it is not unusual for a project to pass through the hands of multiple stakeholder groups (internal line management, internal technical units, donor representatives, government ministries, regional offices and implementing partners) as it moves from the initial idea, through official project approval.

Each of these stakeholders mentioned above will be evaluating the project according to a different set of criteria and each has some level of authority over 'go/no-go' decisions. The criteria that might be considered through this initiation process might include:

- Compliance with program objectives
- Internal and external environmental considerations
- Critical performance metrics
- Projected costs, return on investment, etc.
- Resource availability
- Quality standards
- Environmental impact assessments
- Institutional capacity

Managing a large group of stakeholders often takes considerable time and runs the risk of communications challenges. However, there are also advantages to having so large a group of stakeholders involved in project 'go/no-go' decisions – namely that it ensures that there is a robust analysis of the concept, resulting from many perspectives, and it helps assure that there is collective ownership for the project once it begins implementation.

3. Mitigate your risks by employing a decision gate process. One-way development organizations mitigate the risk of the 'perfected, but rejected' scenario, is by subscribing to a decision gate process of project initiation. In a decision gate process, development organizations outline a series of 'go/no-go' decision gates through which the project must pass before it is ultimately approved. Each successive decision gate builds on the work that was developed in the previous decision gate.
4. Map out the different initiation processes that exist in your organization. It might not be surprising to find that the formal initiation process differs from one development organization to another. What is more surprising to discover, however, is that a single organization might have multiple initiation processes with unique decision gate sequences. The initiation process could change from one region of the organization to another; it could require special decision gates depending on the size, complexity and risk of the project; and the decision gates could change depending on the donor who is funding the project.

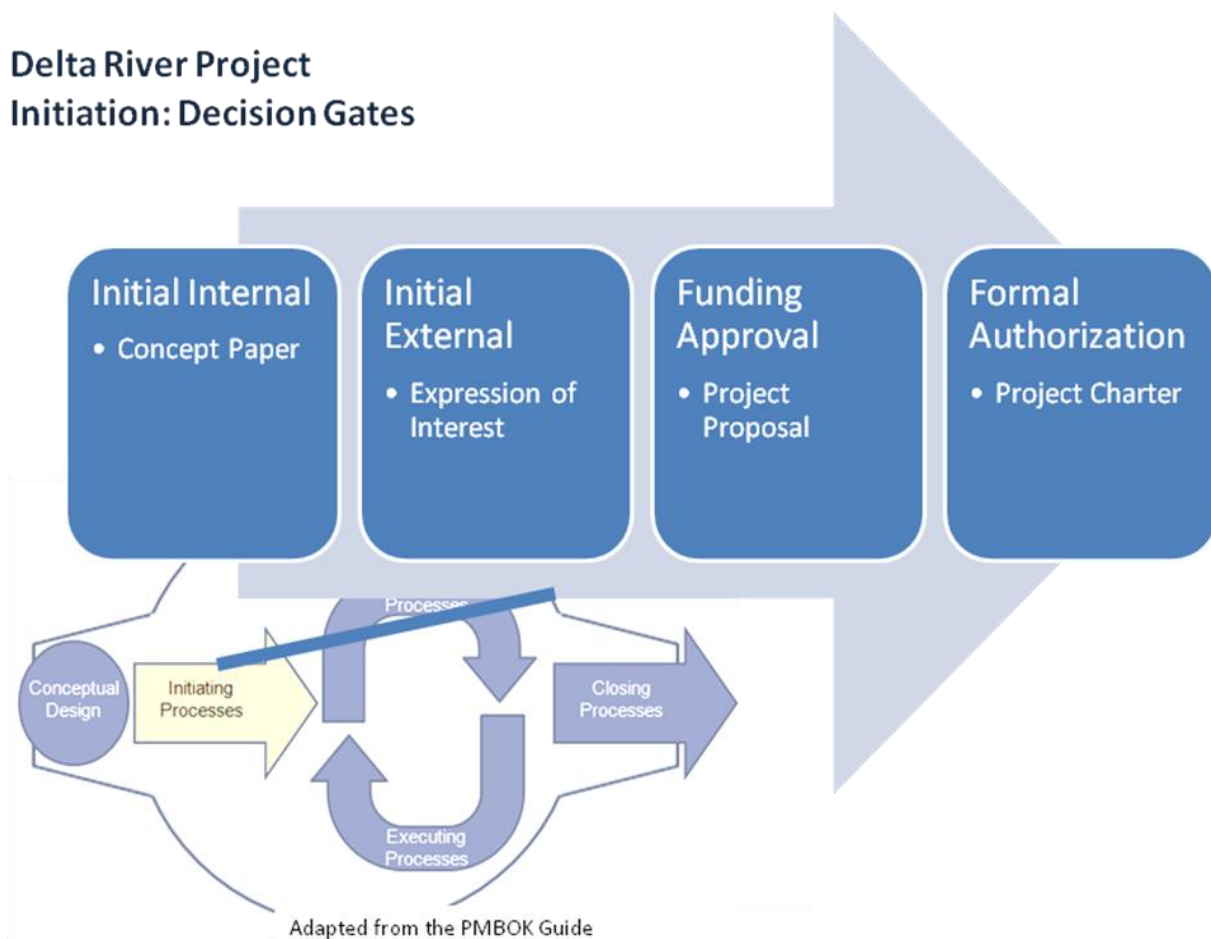
The number and variety of initiation processes in a single development organization can be confusing and a source of risk. It is important to document the various initiation scenarios so that project team members are clear with regard to the decision gates required for each scenario and project. Despite this complexity and risk, however, the advantages of moving through progressive decision gates are the following:

- It maps out the process through which a project needs to be vetted in order to ensure that it has the support (both internal and external) that is required for the project to ultimately be approved.
- It helps ensure that the organization does not invest extensive amounts of time, money, personnel capacity and organizational capital in developing project proposals that lack commitment and support from key decision makers (donors, implementing partners, decisions makers internal to the agency).

Case Study: Initiation Processes in the Delta River Project

Returning to the example of the water quality improvement project in the river delta region, there are four gates which requires 'go/no-go' decisions in that scenario:

Delta River Project Initiation: Decision Gates



At each of these 'go/no-go' decision gates, the project team develops documents that serve as 'initiation deliverables'. These initiation deliverables serve as the inputs upon which 'go/no go' decisions are made.

Decision Gate 1: Initial Internal Authorization. In the Delta Project Scenario, the team needs to solicit internal authorization to expend resources to assess and analyze data related to community need, stakeholder capacity and potential project logic models. The initiation deliverable required to receive this green light comes in the form of the **Project Concept Paper**, which provides the information required to internally authorize exploratory assessment and analysis and potential proposal development.

Decision Gate 2: Initial External Authorization. The next step in the Delta Project's initiation process is to explore whether there is initial support from the donor for the proposed project idea. In this scenario, the organization develops an **Expression of Interest** document to submit to potential donors. This document (which serves as the initiation deliverable for the initial external authorization of the project) is intended to serve as a high-level overview of the project and is not supposed to be expansive in depth or detail. The document should be developed in a relatively short time period using limited resources, and is intended to start a conversation with regard to the high-level design of the project, and to receive feedback for the project BEFORE considerable resources are devoted to develop a more expansive project proposal.

Decision Gate 3: Donor Funding Approval. In the Delta River Project Scenario, the primary initiation deliverable required to receive external funding approval for the project is the project proposal. The project proposal, as compared to the project concept paper and the expression of interest, is designed to receive approval for a request for funding for a project. It should be clear and precise in describing the project outcomes and include sections describing the project logic, the project monitoring plan, the project implementation schedule and the project resource requirements.

The project proposal development process can vary considerably depending on the size of the project, the donor requirements, the context of the intervention (emergency, non-emergency, etc.) and the amount of documentation which was already developed during the project identification and design phase. For example, during the project identification phase, many projects will have already developed a comprehensive logic expressed in a logical framework's vertical and horizontal logic – allowing them to speed through

proposal development. Other projects that will not have completed a thorough logical framework will need to develop a proposal. Large projects often need weeks or months to prepare – requiring significant time to develop budgets, and employing a range of consultants (internal and/or external to the organization) to help in identifying the project activities, resources and timeframes.

Once a project proposal document is completed, it is not unusual to have it reviewed by multiple stakeholders before it is submitted to the official project donor (often an external donor, but sometimes an internal funding department of the organization). Depending on organizational norms, an early version of the project proposal might require review and endorsement by an organization's technical team, regional office, grants management team, implementing partners and others.

Decision Gate 4: Formal Project Approval. Once a project proposal receives donor approval, a formal project charter is developed and signed. The project charter serves as the initiation deliverable upon which the formal decision to authorize the project is made. A signed project charter allows the project to

- begin allocation of project resources; and
- begin work implementing the project.

The Project Charter identifies documents and communicates the parameters of the project. The project charter can take on various formats, but generally it serves to ensure that there is shared understanding of, and commitment to, the project parameters among key project stakeholders and sponsors (both internally and externally). The parameters of a Project Charter are usually written from a relatively high-level perspective and include:

- **Project Purpose** – including a statement of the need the project will address.
- **Project Deliverables** – articulating the scope of the project, including the project goal, outcomes, and major outputs.
- **High-level Project Estimates** – including a high-level statement of:
 - the Work Breakdown Structure (WBS);
 - the project schedule;
 - the project budget; and
 - a preliminary list of the roles and skills required to perform the necessary work.
- **Project Risks** – identifying potential problems/risks that the project might encounter.

The project charter should also include statements with regard to the tolerances set regarding project deliverables (and their quality), schedule, cost and risk. Furthermore, an initial statement on exception handling processes should be established for when the project exceeds a tolerance in any of these areas.

It is important to recognize that the decision gate sequence for the River Delta Case Study represents just ONE of MANY sequences that could exist for a development project. For example, some donors require the submission of a letter of interest before you are 'approved' to develop a project proposal. In this scenario, the 'letter of interest' would represent yet another decision gate.

Furthermore, some organizations do not include the project design activities for a project within the context of the project life cycle. In these situations, the project identification and design processes comprise a completely separate project (with a full and distinct project life cycle). In this scenario, the project design would be complete, and there would be no requirement for an Assessment and Analysis Authorization decision gate in the initiation process.

The important message to consider when discussing decision gates is ensuring that the project team is clear about the importance of getting the necessary stakeholders 'on board.'

Revisiting the Initiation Process throughout the Project Life Cycle

Once a project is formally initiated via the charter document, conventional wisdom would argue that the initiation phase is complete. However, this is not the case. As a best practice, project teams should revisit the initiating process at the start of each phase (or at major benchmarks in the implementing process) to keep the project focused on the need that the project was originally undertaken to address, and to ensure that the context and assumptions that initially led to the approval of the project still exist. This is especially important for large or complex projects.

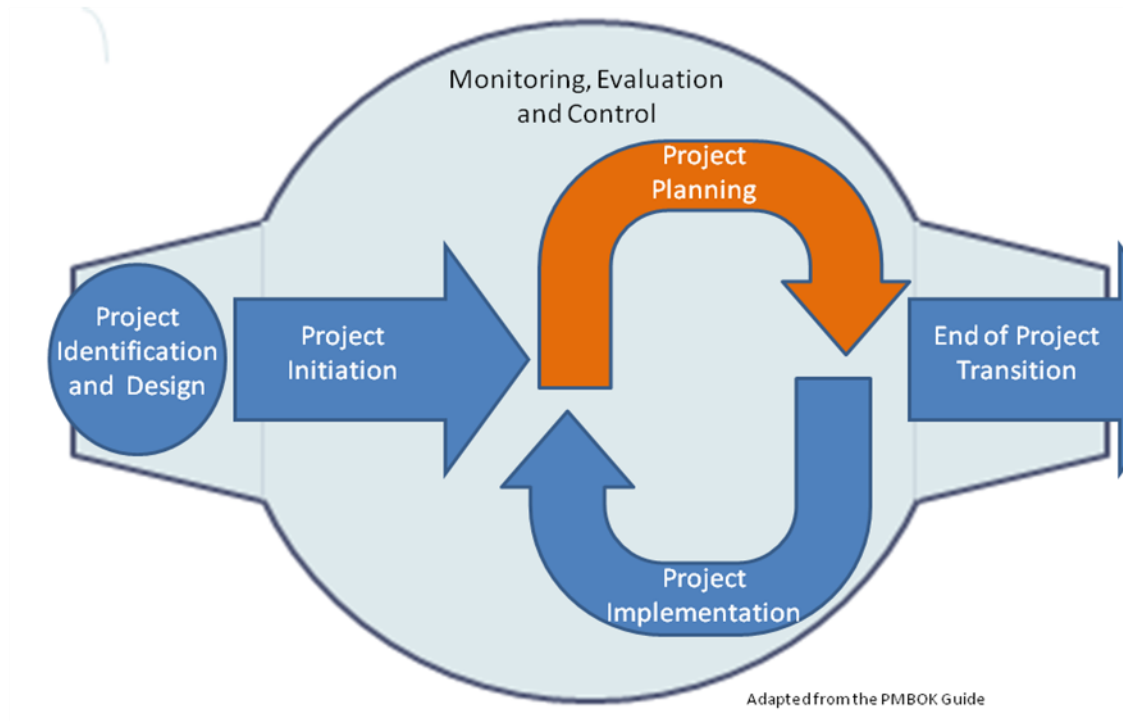
Some organizations and/or donors require that annual implementation plans be submitted for their multi-year projects, outlining operations for each year of the project. These annual implementation plans serve not only to ensure that the project work estimates are accurate and relevant, but also serve as decision points. The review and approval process for the annual

plans serves as an opportunity to verify that the assumptions which served as the foundation of the project, as well as to confirm the availability of required resources, assess the external project context/risks, and monitor the vertical logic of the project. Based on the results of this review, a decision is then made whether or not the project should continue, or whether the project should be delayed, revised or discontinued.

Repeating the initiating processes during subsequent project phases also enables the project to be halted if the need no longer exists or if the project is deemed unable to satisfy that need (or if more beneficial uses for the project's resources exist). While it would be natural to consider that a halted project is a failure, it is important to remember that a halted project will 'succeed' in ensuring that additional resources, time and money are not allocated to a project for which there is no longer a need, or whose implementation is no longer feasible.

Section 2: Chapter 3

Project Planning



Differentiating Project Initiation Deliverables from the Project Implementation Plan

Usually by the time a charter for a development project is completed, the project team has already developed a number of initiation deliverables related to the project. These initiation deliverables (i.e. the project logical framework, the project proposal, the project charter etc.) contain a relatively extensive level of detail related to the project, including the:

- goal, outcomes and outputs;
- scope and activities;
- indicators and means of verification;
- budget; and
- schedule

It is important, however, not to confuse the project proposal, the project logical framework, or other documents developed during project identification and initiation phases with a project plan. These documents differ substantially in terms of the format, purpose, audience, level of detail, participation, timing, and schedule constraints.

Take, for example, the project proposal. The table below outlines differences between the project proposal and the project implementation plan in terms of the purpose, format, and level of detail (note that a similar comparison could be made between the project logical framework and the project implementation plan).

	Project Proposal	Project Implementation Plan
Purpose	To obtain approval and funding for the project, emphasizing clear, concise, communication of ideas that 'sell' the project to funding stakeholders	To ensure that the project arrives on time, on scope and on budget, and according to established quality parameters; to emphasize comprehensive, logical planning and to model the project for review by the project team and other stakeholders
Format	Format is often determined by donor requirements or agency stakeholders responsible for investment decisions	Format is determined by the project team and key stakeholders
Level of Detail	Often limited in level of detail – due to the purpose, format, anticipation, schedule and timing of proposal	Level of detail is developed by the project team and key stakeholders
Participation	Often written by a small team as a result of time constraints that limit participation	Opportunity exists to expand participation to include an array of stakeholders, including experts and technical advisors
Audience	Focused on donors and stakeholders who distribute resources	Focused on the needs of the team implementing project activities
Timing and Schedule	Often written under tight time constraints, sometimes months (or even years) prior to implementation.	The opportunity exists to revisit proposals to further develop/revise/update plans at the beginning of project implementation or at key benchmarks in the life cycle

Nevertheless, while there are considerable differences between the purpose, process and content of a project proposal and a project implementation plan, many development organizations use the project proposal as an implementing plan. This is especially the case where the proposal format is based on donor-driven requirements that result in proposals that approximate project plans in terms of length and level of detail. Beware – even the most expansive project proposals (and many can exceed 100 pages in length), still have weaknesses that limit their effectiveness in terms of planning for project implementation.

The Format and Elements of Project Implementation Plans

The format and elements of project implementation plans will vary according to the organization, donor and/or project. However, regardless of the format of the document, all project implementation plans (as compared to the initiation deliverables created during earlier phases) they should meet the following standards:

1. Implementation planning is comprehensive;
2. Implementation planning is detailed;
3. Implementation planning emphasizes participation;
4. Implementation planning prioritizes iteration.

Implementation Planning is Comprehensive

Project implementation plans must comprehensively outline *all* of the work required to ensure project success. At its core, the project plan will identify the activities, budget and schedule required to deliver the **direct** project results (latrines built, health workers trained, agricultural techniques adopted, etc.). However, it is important that the project implementation plan also identify the activities, budget and schedules required to complete the **indirect** work related to the project.

The indirect work of the project is often overlooked or underemphasized during the creation of the project logical framework, the project proposal and other initiation deliverables. The indirect work, however, is indispensable to project success. Examples of these planning required to complete the indirect work of the project include:

- **Project Coordination Planning** – How will the different stakeholders work together? What are the norms for collaboration? Are roles and responsibilities clear?
- **Project Communication Planning** – How will the project team update stakeholders? When are progress reports due? What communication mechanisms will be used? Who is responsible for communications?
- **Project Procurement Planning** – What process and systems exist for acquiring equipment and materials? What procurement benchmarks need to be met in order for the schedule to succeed?
- **Project Human Resources Management Planning** – What is needed to hire, brief, manage and train project staff?
- **Project Monitoring and Evaluation Planning** – Who is responsible for collecting data, processing data, analyzing data, documenting results and communicating messages? When will these activities take place? How will data be used?
- **Project Control Planning** – What procedures need to take place to change the project implementation plan? Who has authority to make changes? How will they be documented? Are there compliance requirements that constrain the project team's ability to make changes to the project scope, budget or schedule?
- **Project Transition Planning** – What steps need to be taken at the end of the project? What activities need to take place for administrative and contract closure? Will the project be phased over to other stakeholders? If so, what investments need to take place to ensure the handover is successful?

As indicated previously, the format of implementation plans can vary considerably. In some cases, the elements of the comprehensive plan are all included in a single project implementation plan document. In other cases, the project implementation plan is made up of multiple documents. In these scenarios, the core project plan is complemented by separate plan(s) that provide a deeper level of detail on a specific area of project planning. For example, a project might have both a core implementation plan AND a specific plan for Project Monitoring and Evaluation. Similarly, depending on the size, complexity and risk of a project, a team might choose to have separate documents that specifically address Project Procurement, Project Communications, Project Human Resource Management, etc. Each of these plans should be consistent with (and linked to) the other documents that make up the comprehensive project implementation plan.

Implementation Planning is Detailed

Regardless of the format of the project implementation plan, it is important that the plan be detailed. Plans should be adequately ‘decomposed’ (to decompose means to separate or break down project deliverables into smaller elements, components or parts), so that the people responsible for completing the work of the project are clear about what needs to be done, when, with what resources, and according to what parameters. The project implementation plan should attempt to decompose the work into manageable units – the size of which is determined predominantly by the risk, complexity and value of the task, and the competency of those to whom its management will be delegated by the project manager.

The intention of the project implementation plan is to provide a model of the project. It provides the project team members a low-risk, low-cost environment to build out project alternatives; identify ‘what if’ scenarios; and consider alternative approaches – BEFORE project resources have been expended and before time has passed.

While some argue that the project logical framework and/or the project proposals are acceptable implementation models, these documents seldom provide a sufficient level of detail to implement a project. The documents are written for different purposes altogether. Logical frameworks are designed to model the project logic. Project proposals are written with the aim of obtaining project approval and funding resources. By comparison, the purpose of project implementation plans is to serve as a comprehensive and detailed model map for the successful implementation of the project. To accomplish this purpose, comprehensive project plans must

provide details regarding all the activities and resources required to complete both the direct and indirect work of the project.

Examples where project implementation plans tend to provide much more detail than project proposals include the planning for much of the indirect work of the project:

- **Project Coordination** – project progress meetings and plan development.
- **Project Communication** – updates to stakeholders, donor progress reports, website management and compliance reports.
- **Project Procurement** – the acquisition of equipment and materials.
- **Project Human Resources Management** – the hiring, briefing, managing and training of project staff.
- **Project Monitoring and Evaluation** – collecting data, processing data, analyzing data, documenting results and communicating messages
- **Project Control** – negotiations with donors, compliance requirements, implications analysis of updates to project scope, schedule or budget, and documentation of changes to project scope, budget or schedule.
- **Project Risk Management** – risk identification, monitoring, mitigation and control.
- **Project Closure** – the end of project transition, including, but not limited to, administrative closure and contract closure.

Implementation Planning Emphasizes Participation

While participation and participatory processes are encouraged and prioritized along each phase of the project life cycle in the international development sector, it is not unusual to find situations where the project proposal development process only has a limited amount of participatory activities. While this is an undesirable scenario, it is often attributable to a number of reasons:

- **Project proposal development schedules are often accelerated due to time constraints.** Often, donors provide organizations only a month between the release of a funding opportunity and the submission date of the proposal. In such situations, organizations are pressed to complete all the steps involved in project assessment, analysis, and logical design; and to navigate the initiation decision gates required to develop and submit a project proposal submission. One of the many impacts of these time constraints is that it prevents organizations from consulting and collaborating extensively with key project stakeholders during the project identification and design phase.
- **Project Proposals are often developed by small teams of people.** Given that the audience of project proposals are usually the stakeholders that have authority over funding decisions (external donors or groups internal to the organization), the project proposal development team is often more focused on how best to ‘sell’ the project – and is staffed by people who are best at writing and navigating the proposal submission process. This can result in a diminished focus on communication and collaboration with key stakeholders in the proposal development process.

- **Project Proposals are not intended to serve as comprehensive planning documents.** While a certain level of medium to high-level detail is included in the project proposal, often the details of the project are not worked through until the implementation plan is developed. At this point, the people closest to the project implementation can be invaluable with regard to making accurate estimates of the effort (time, money, resources, and staff) required to complete the work of the project.

For all these reasons, it is important that the project teams take advantage of the opportunity that the project implementation planning process offers to engage stakeholders more extensively and comprehensively than was possible during the project identification and design phase of the project.

The project planning process should involve all appropriate stakeholders, depending upon their influence on the project and its outcomes. Participation in the planning process has multiple advantages, including:

1. Stakeholders have skills and knowledge that can be leveraged when developing accurate estimates regarding budgets, time requirements, levels of effort, and other resources required for completing the work of the project.
2. Project stakeholders are often in the best position to identify potential project risks and make plans to mitigate their impact.
3. Providing an opportunity for new staff or partner staff to be oriented through detailed planning even if they did not participate in the original project design work. This helps ensure a common understanding of the outcomes, outputs and activities and contributes to the initial team-building dynamic.
4. Stakeholders involved in the project planning process are more likely to assume leadership, ownership and buy-in of project implementation activities.

Implementation Planning Embraces Iteration

Once the project has been formally initiated, the planning process provides the opportunity to double-check that the proposal's scope of activities, schedule, staffing and budget are up-to-date and accurate. In the development sector, as in the private and public sectors, there is often a delay between the original design and project start-up. As a result, project proposals and project logical frameworks are often months', or even years', old before the project activities begin. In comparison, project implementation plans are developed only after the project is formally initiated and can be conducted based on the most recent information regarding changes in risks and external circumstances (like the impact of changing currency rates on project implementation). This helps to ensure that the implementation plan is up-to-date and accurate.

Furthermore, throughout the project, it is important to treat the implementation plan as a ‘living’ document, not one that is static and unchangeable. Notice that the generic project life cycle diagram expressly represents the project planning phase as part of a loop with the implementation phase. The activities in the implementing phase are continually providing insights and learning that informs and updates the project implementation plan. Similarly, the information you collect from the monitoring, evaluation and control processes also influences and improves the project plan.

As new project information is collected, additional dependencies, requirements, risks, opportunities, assumptions, and constraints will be identified. Significant changes in any of these areas occurring throughout the project life cycle may trigger the need to change one or more elements of the implementation plan.

Over time, changes to the project implementation plan help provide greater detail on schedule, costs, and resources required to meet the defined project scope. This iterative process of providing increasing levels of detail to the project implementation plan over time is often called ‘rolling wave planning.’ Iteration, by definition, is the act of repeating a task a second, third or more times to achieve a desired result.

Nevertheless, while the iterative nature of project planning is very positive, it is also important to ensure that any changes to the project implementation plan over the life of the project are:

- **controlled** through a documented change management process;
- **analyzed** to ensure that implications of those changes are thoroughly thought through;
- **documented** so that all the project baselines reflect the changes; and
- **communicated** to key project stakeholders.

In the development sector, there are two commonly adopted approaches to controlling changes to the implementation plan:

1. Project changes (cost, time, quality or otherwise) are documented and communicated through a control process that keeps key stakeholders updated about changes and any associated issues.
2. Projects subscribe to a planning model that includes periodic updates of implementation plans (yearly or otherwise). Using this approach, agencies revisit the project implementation plan at the beginning of each project period to:
 - confirm the logic, risks, opportunities, assumptions and constraints; and

- to update and revise the activities, timelines and resources of the project to ensure that they accurately reflect the current project situation and external operating context.

Techniques Used for Scope, Resource and Schedule Planning

It is not within the scope of the PMD Pro1 to explore all of the tools and techniques associated to each of the elements of project implementation planning. The remainder of this chapter, however, will examine some of the principle tools used to plan project scope, project resources, and project schedules. These tools, which are used extensively by project managers regardless of the sector in which they work, include the WBS, Network Diagrams, Critical Path Analysis and Gantt Charts.

Subsequent chapters in Section Two of the guide will explore a number of additional tools and techniques that can be used for project coordination planning (the RACI Matrix), human resource planning, communications planning (the communication plan), project monitoring and evaluation planning, and end of project transition planning.

Project managers in the development sector who are interested in learning more about additional tools and techniques related to project implementation planning are encouraged to continue their professional development through the pursuit of an internationally recognized project management credentials. These professional certifications (PMIs CAPM/PMP, the OGC's Prince2® Foundation/Practitioner, or comparable) further examine the knowledge, skills and attitudes required to successfully plan projects in all areas of project implementation.

Using the WBS to Define Project Scope

In a project, the term 'scope' can refer to:

- **product scope** – the full set of features and functions that characterize project results; or
- **project scope** – the work required to deliver project results according to their specified features and functions.

During the Project Identification and Design Phase and the Project Initiation Phase considerable work will have been completed to identify the product scope. At the time of beginning a Planning Phase many projects have already produced an objectives tree, a logical framework, a concept paper and a relatively well elaborated project proposal. Combined, these documents are likely to have sufficiently defined the product scope, including goals, objectives, outcomes

and outputs. While even greater detail is likely to be added to the product scope during the course of the Planning Phase, development sector organizations will have already done a relatively good job of identifying and documenting the parameters related to product scope.

On the other hand, while the Project Identification and Design Phase and the Project Initiation Phase may provide a relatively well developed product scope, there will typically have been less emphasis on the project scope. During the planning phases, the project scope must be defined and described in detail so that project stakeholders can execute the work required to successfully deliver project outcomes and outputs.

The WBS (or Product Breakdown Structure in PRINCE2®) is the principle tool that project managers use to plan the project scope. The WBS is a hierarchical decomposition of the work of a project. Put simply, the WBS arranges the project scope in an outline or hierarchy of 'work packages.' The WBS can be used to:

- guide the process of activity identification and sequencing;
- provide a basis for
 - ✓ more accurate estimates of project duration;
 - ✓ more accurate estimates of project cost;
 - ✓ estimating resources (such as vehicles, people, supplies, building materials);
- identify required departmental, subcontracting, vendor services;
- show the hierarchy of work needed to complete a project; and
- indicate the interfaces between them.

Delta River Project

1.0 Reduce Volume of Fecal Waste

1.1 Monitoring

1.1.1 Base-line surveys

1.1.1.1 Houses w/latrines

1.1.2.2 Houses w/o latrines

1.1.2 Quality surveys

1.1.2.1 6-month samplings

1.1.2.2 Annual samplings

1.1.2.3 Site visits

1.2 Public Awareness Campaigns

1.2.1 Materials Preparations

1.2.1.1 Identify messages

1.2.1.2 Create materials

1.2.1.3 Publish materials

1.2.2 Implement Campaign

1.2.2.1 Distribute Printed materials

1.2.2.2 Radio announcements

1.2.2.3 classroom programs

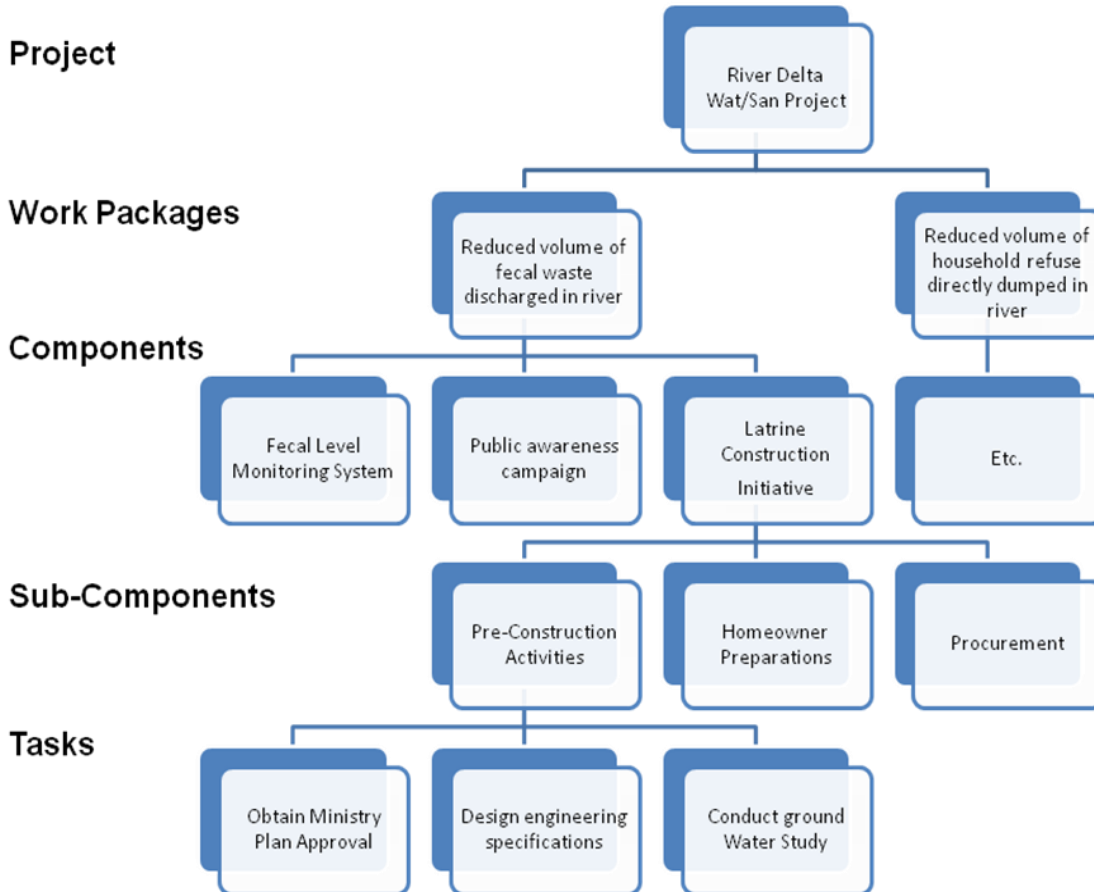
1.3 Build Latrines

1.3.1 etc...

In practice, creating a WBS is more an art than a science because the format and content of the WBS document can vary significantly. A WBS can take on multiple formats, each with its advantages. The two most common formats for a WBS are indented and graphic.

The indented format has the advantage of being easier to enter and edit project details in. It is also an easier format to load into project management software tools such as Microsoft Project, as well as for printing reports and computerized monitoring.

The **graphic format** is good for showing the relative levels of the work and how smaller components of the project roll up into larger ones. For presentation purposes, this format also facilitates adjusting the depth of detail that is appropriate for various audiences.



In the end, preferences that the project team and the stakeholders have for interpreting information are most likely to influence the WBS format. Some people can process data more easily when they view it graphically; others prefer lists. It is sometimes a good idea to create both: an indented format to guide a team with greater detail, and a graphic diagram for briefing senior management and contractors.

WBSs can also differ significantly in their number of levels. While there are no rules that identify the number of levels, the WBS must be detailed enough so that the sub-deliverables can be successfully controlled and monitored. Furthermore, the WBS should be comprehensive, including all activities required for project success, including management activities that are

frequently omitted in project proposals and logical frameworks (project start-up, project planning and control, stakeholder training, communications, reporting, and project closure.)

A further use of the WBS after its construction can be to group work packages into contract packages and to produce a Contract Breakdown Structure. This applies both to work packages delegated to external stakeholders as well work packages implemented by internal resources that are not in the direct project hierarchy. Each work package should be totally clear with regard to its required inputs, what outputs are expected, the duration of the package, the earliest and latest start and finish, and the accountability norms for its delivery to the project manager. The project manager can then focus on the interfaces. Who needs what from whom to get their package(s) started? What is the effect of a delay in delivery on other packages awaiting outputs as the inputs to their package(s)?

Scheduling Project Activities

Delivering projects on time is one of the biggest challenges faced in project management and schedule issues are the main reason for conflicts on projects. Project scheduling is often perceived as a single process that is conducted simultaneously when the project calendar is developed. Schedule planning, however, includes a series of distinct processes, where each process employs unique tools/techniques. The steps in the schedule planning process include:

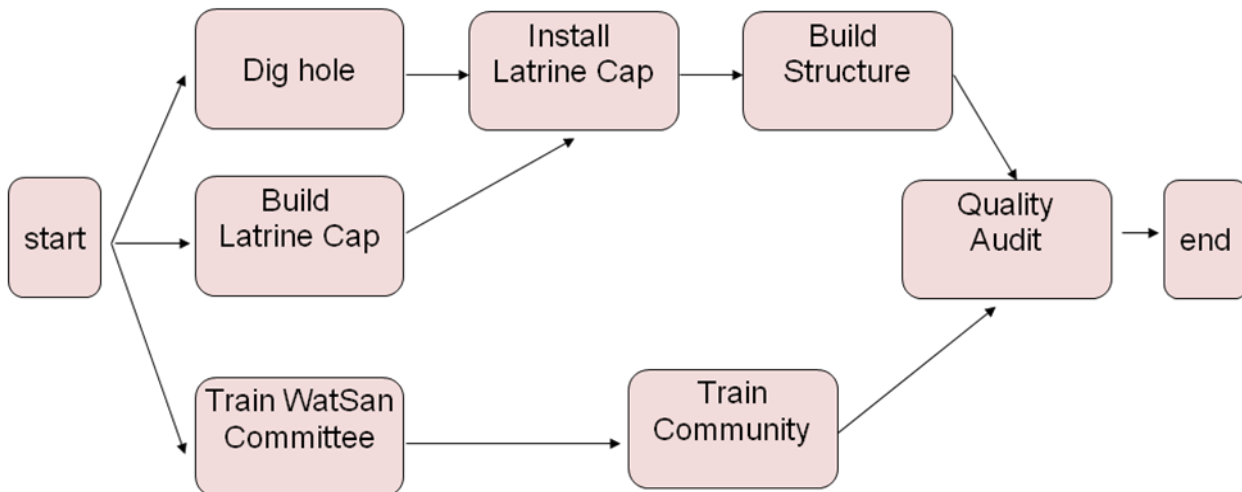
- **Activity Definition** –Comprehensively identifying the activities that need to be performed to produce the project deliverables.
- **Activity Sequencing** – Identifying the relationships that exist among the various schedule activities.
- **Activity Resource Estimating** – Allocating the type and quantity of resources available/required to perform each schedule activity.
- **Activity Duration Estimating** – Estimating the time required to complete project activities.
- **Schedule Development** – Creating a project schedule based on activities, sequences, durations, resources and schedule constraints.

Activity Definition and Sequencing

Starting from the WBS, the project team develops an activity list which comprehensively records all of the activities within the scope of the project (or within the scope of a specific work package of the project). Next, the project team develops a network diagram which identifies and documents the relationships between the WBS's activities through graphic illustrations.

The image below illustrates a simplified network for a latrine project. Some of the messages that can be interpreted from the design of the diagram include:

- The project team must wait for the latrine cap to be built before it can be installed.
- The project team does not need to await completion of the latrine cap before digging the latrine hole.
- The training activities can be completed independently of the latrine construction activities.



Activity Resource Estimating

Once the sequence of activities is identified, it is tempting to move straight to activity duration estimating. First, however, the important step of estimating resources must be completed. At its core, the relationship between resource estimating and duration estimates is intuitive.

Everyone knows that it will take one person longer to dig a hole than a team of five people. Furthermore, duration estimates will vary considerably depending on whether the excavation team plans to use a single shovel, a pneumatic drill or dynamite to make the hole.

In short, resources matter. They are one of the central factors influencing the project duration estimates. Therefore, resource decisions need to be made before duration estimates can be made. Decisions relating to the number and quality of resources committed to an activity, in turn, are contingent on a number of factors, including (but not limited to) the following:

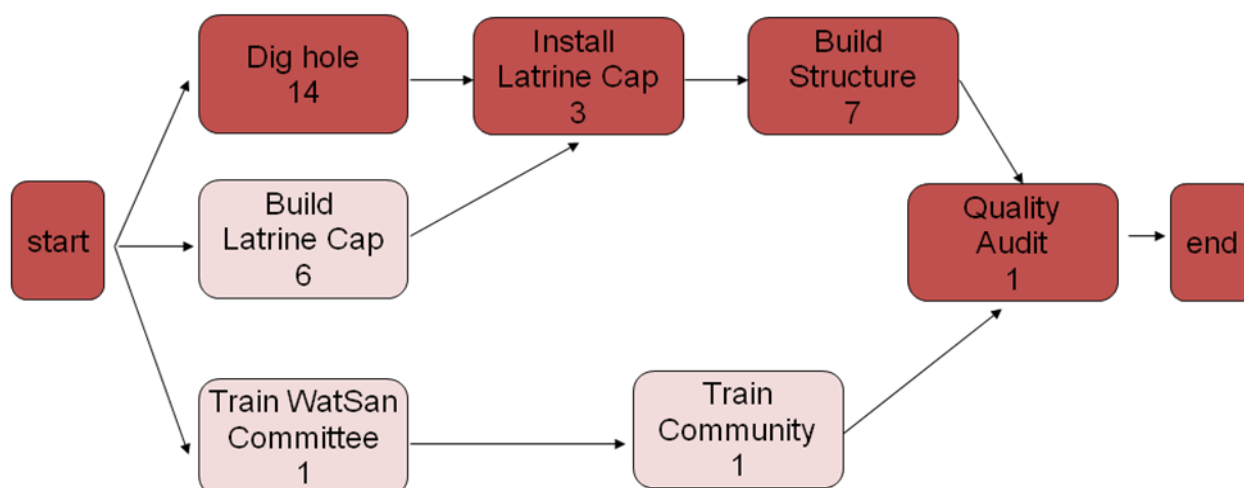
- **Time** – If there is a very tight timeframe, the project may choose to dedicate high levels of staff, materials and capital equipment to meet time constraints. Conversely, if the

timeframe is loose, the project may choose to dedicate lower levels of resources allocated to an activity.

- **Budget** – If money is in short supply, the project might choose to invest in a ‘low cost’ resource mix. For example, more manual workers and less machinery are a preferable low-cost alternative. This resource decision, however, will extend the duration of the latrine excavation activities.
- **Regulations** – In some countries, projects are constrained by labor laws that limit work schedules (hours per day, days per week, holidays per year, family leave policies). These regulations influence resource availability and consequently duration estimates.
- **Other Factors that Influence Resource Availability** – A number of other factors influence resource availability, and thereby will influence activity duration estimates. Some examples of these factors include:
 - **Weather Constraints** impede an agricultural project where community participation is impossible during harvest season;
 - **Material Constraints** impede a housing project which requires scarce construction materials, making it necessary to adopt an alternate strategy that is more time consuming;
 - **Logistics Constraints** impede an emergency relief project from accessing transport extending the time required to fill food warehouses;
 - **Human Resources Constraints** impede a health project from accessing qualified labor, extending duration estimates for technically complex activities.

Activity Duration Estimating

Once resource estimates are complete, the network diagram should be revisited and duration estimates will be added to all the activities. Returning to the latrine project’s network diagram, units of time (in this case, days of work) are inserted below each of the project activities.



Now the network diagram is complete and can be used to help the project team identify:

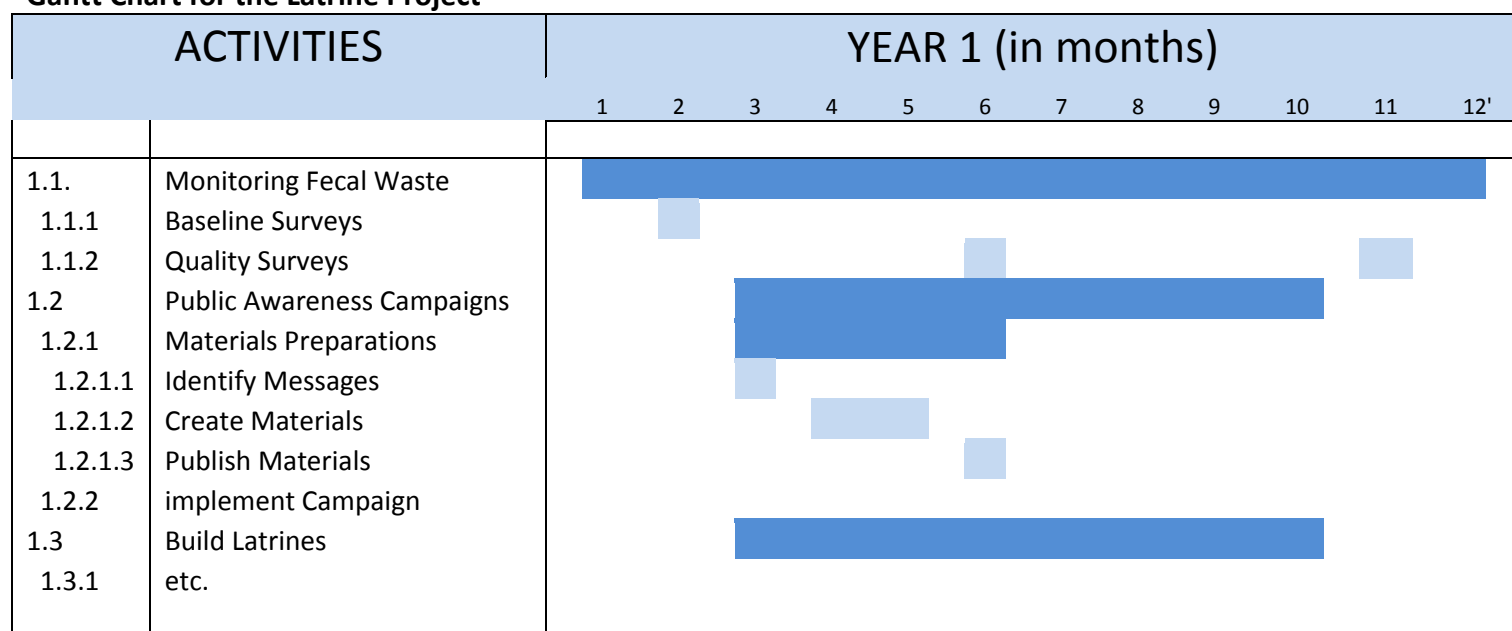
- **The Project's Critical Path** – The critical path is the series of tasks that determines the minimum amount time required to complete project activities. In the latrine project example, the critical path is the series darkly shaded tasks. This sequence of tasks represents the longest path between the project's start and its end (in this case 25 days).
- **The Project Float (or Lag)** – In project management, float or slack is the amount of time that a task in a project network can be delayed without causing a delay to project completion date (total float). In the latrine project example, there is zero float on the critical path. However, the latrine cap construction activities could be delayed up to 11 days without impacting the project schedule. Similarly, the training activities could be delayed by up to 23 days without impacting the project schedule.

Schedule Development

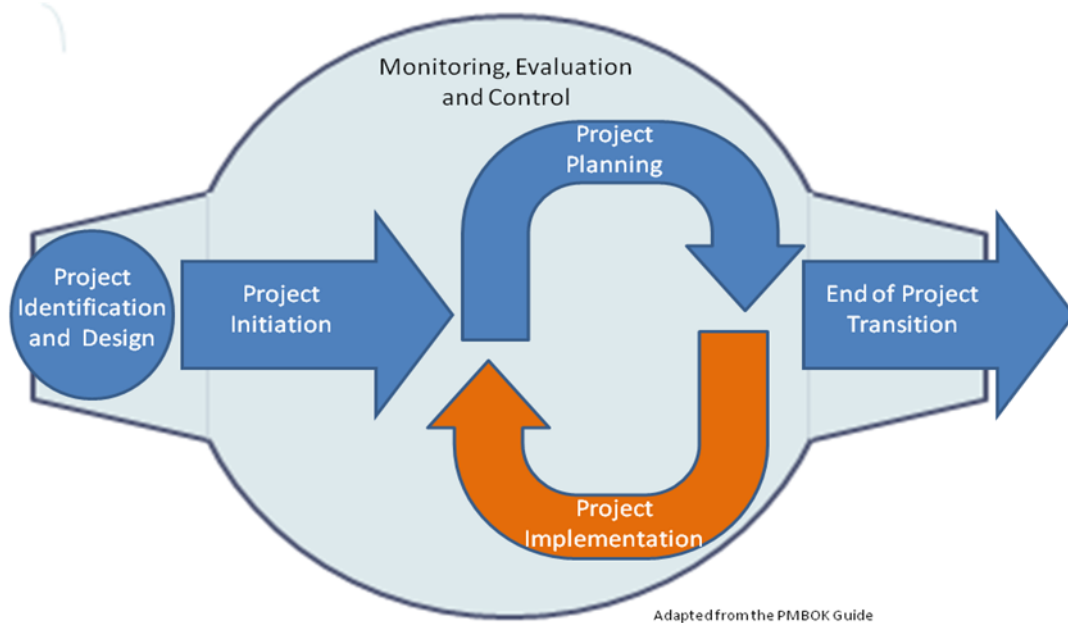
Based on the estimate generated through the previous steps, the project team can now develop a project schedule. Within the development sector, the preferred tool for project schedule development is the Gantt chart. A Gantt chart uses bars to graphically represent the schedule of project activities, including their start date, end date, and their expected durations. Gantt charts have the advantage of being relatively easy to read and to use for presentations.

The complexity and comprehensiveness of the Gantt Chart will vary. The broader, more comprehensive activities of a project can be scheduled via a summary Gantt Chart, with details being further elaborated on a detailed schedule.

Gantt Chart for the Latrine Project



Section 4 – PROJECT IMPLEMENTATION



Within the implementation phase the project manager, working with the project team, is responsible for the following activities:

- Launching the project
- Coordinating roles and responsibilities
- Directing and managing project implementation
- Managing communications
- Managing the project team
- Managing issues and risk
- Managing organizational capacity.

Launching the Project

The purpose of the project launch is to:

- formally acknowledge the beginning of project implementation;
- on-board the project team (on-board means to acquire, on-board, and integrate new employees into a project);
- introduce key stakeholders to the project; and
- communicate with individuals and groups who are critical to the project success.

When identifying the stakeholders with whom the project team should communicate at the project implementation, special attention should be given to identify individuals and groups who are critical to the project success. These stakeholders might include community members, government officials (both political officials and ministry employees), and other development organizations working in the project intervention area.

Coordinating Roles and Responsibilities

When implementing a project, development organizations seldom work alone. More frequently, the project implementation process takes place through a web of relationships that includes community groups, government ministries, local non-governmental organizations, universities, faith-based organizations and many more.

During the project planning process, the project identifies roles and responsibilities for the various project activities. Defining and distinguishing relationship types helps clarify the roles, responsibilities, rights and communications that are required between the multiple organizational relationships that are managed through a single project implementation. The tool which is often used for this purpose is the RACI chart – a matrix typically created with a vertical axis (left-hand column) of tasks or deliverables, and a horizontal axis (top row) of roles. Stakeholders, and which derives its name from an acronym of the four key roles most typically identified in the matrix:

Responsible

A *Responsible* includes those who do the work to achieve the task. For each task there is typically one role that is the lead in completing the work, although others can be delegated to assist in the work, if required

Accountable

An *Accountable* must approve (sign off) the work that the *Responsible* person provides. There **must** be only one *Accountable* person specified for each task or deliverable.

Consulted

Those whose opinions are sought; and with whom there is two-way communication.

Informed

Those who are kept up-to-date on progress, often only on completion of the task or deliverable; and with whom there is just one-way communication.

The following chart provides an example of the RACI matrix for the Delta River Project:

Type of participation →	Who is responsible?	Who is accountable?	Who needs to be consulted?	Who needs to be informed?
Project Task ↓	Who is getting things done? Doing the work associated to the task?	Who signs off on the deliverable associated to the task?	Who needs to be actively solicited for input?	Who needs to be kept abreast through copies of reports, e-mail, etc.
Concept Note	Lead Project Manager Assist Implementing organization	Project Manager	Technical Advisor for Sanitation	Ministry of Health (MOH) officials

Design Assessment Analysis Logical framework & M&E Planning	Lead Project Manager Assist Implementing NGO	Implementing NGO Technical Advisor Project Managers Local Employers	Project participants Local MOH officials Donor	MOH officials (national level)
Proposal Writing and Submission	Lead Project Manager Assist Implementing NGO	Implementing NGO Technical Advisor for AIDS Project Manager HQ Business Team	Local MOH officials Donor	Project Participants
Detailed Program Planning	Lead Project Manager Implementing NGO	Implementing NGO Project Manager Local employers	Project participants Local MOH officials Technical Advisor for Sanitation Donor	MOH officials (national level)
Implementation	Lead Project Manger Implementing NGO	Implementing NGO, Project participants, Project Manager	Program officer	Donor
Monitoring and Evaluation	Lead Program Officer Donor	Project participants Project officer	Regional Technical Advisor	MOH officials (national level)

Once developed, the RACI matrix is shared with project stakeholders in order to help ensure an understanding, and expectations, of project roles and responsibilities. It is then used to manage the contributions of stakeholders throughout the project life cycle.

Managing Project Implementation

The day-to-day work of project implementation is to lead and manage the implementation of the project, ensuring that the project implementation plan and its associated documents are delivered according to plan, are monitored closely and are revisited as issues and risks are identified. Within the professional discipline of project management there are tools, skills and processes that exist to help project managers develop comprehensive and appropriate documents that are essential to the successful implementation of the project.

A few of the many original reference documents used to lead and manage project implementation are listed below. Note that the number and variety of documents implemented during this phase vary by organization, donor and project.

1. The Project Implementation Plan
2. The Project WBS and/or the Product Breakdown Structure
3. The Project Schedule
4. The Project Budget (and associated notes)

5. The Communications Plan
6. Project Team Plan

Managing Communications

One of the most important characteristics of successful project managers is excellent communication skills. As a manager and creator of most of the project communication resources (project documents, project status reports, and meeting updates) it is the project manager's job to ensure that communications are explicit, clear and complete so that the audience will have no trouble understanding what has been communicated and, in particular, what actions they need to take (if any.)

Good communication is both an art and a science. The art of successful communications depends on the interpersonal and leadership skills of the project manager. Can the project manager communicate vision? Are messages clearly and logically organized? Are written communications of high quality? Are verbal communications compelling? The science of communications, however, is about planning and execution.

As indicated in chapter three of this section, communications planning should be an integral element of a comprehensive project plan. These plans provide the basis upon which information flows through a project, allowing for actions, decisions, changes and execution. ,

As a practical matter, communication needs will, and do, vary according to project size and complexity. When misapplied, even the most well intentioned communications plan can backfire. Projects must be careful not to provide too much (or too little) of a good thing. For example, on a small project, overly formal communications practices can quickly become an administrative burden, interfering with productivity and schedule progression. On a large project, informal, ad hoc communication practices can quickly turn success into disaster if important issues and opportunities are missed through lax procedures.

Communication planning involves four steps:

- Step 1:** Identify your project stakeholders
- Step 2:** Analyze the needs and expectations of your stakeholders
- Step 3:** Identify existing and possible new communications vehicles or opportunities and choose appropriate vehicles for your stakeholders.
- Step 4:** Develop, document and monitor your communication plan.

The project team's work has already made significant progress in steps 1 and 2 through the stakeholder analysis and RACI activities. Steps 3 and 4 of the communications planning process, however, need to be thought through more extensively. Choosing the right communications vehicles involves identifying which communications method matches the project's messages and stakeholders. As a guide, here are several questions to ask when determining which mechanisms to use for project communication:

- Which mechanism or vehicle will increase the likelihood that the message will be actually received, understood and acted upon?
- How much information will be included and at what level of detail?
- Which mechanism is most appropriate for the type of message?
- Which mechanism does the stakeholder prefer?
- What level of interaction is required (one way or two way)?

Furthermore, it is important to differentiate between regular, or ongoing, communications with project team members, sponsors, and other key stakeholders on a regular basis. Selected methods include status reports, scheduled meetings, monthly updates, event-driven communications, critical issues sessions, vendor meetings, training schedules and roll-out schedules.

The following table provides an example of a communication plan:

Communication Plan

Communication	Purpose	Audience	Author	Assigned To	Communication Vehicle	Frequency

Managing the Project Human Resources

As is the case with communications, human resource management is both an art and a science. The art of human resources management depends on the interpersonal and leadership skills of the project manager. Can the project manager motivate stakeholders? Inspire confidence? Manage conflict? Build team morale? The science of human resources management depends on effective planning. As indicated in Chapter 3 of this section, human resources planning is an integral element of a comprehensive project implementation plan. The project's human resource management plan identifies the activities and resources required to manage the project team. Components of human resources management include:

- **Acquiring Project Staff** – As part of the function of managing the team, the project team leader must be clear on the systems for identifying staff candidates, interviewing candidates, identifying selection criteria and making final selections of project staff.
- **Identifying Project Staff Assignments** – Project staff assignments are the list of project duties, roles and responsibilities for team members. Staff assignments are often used during the monitoring and controlling process to evaluate individual team members.
- **Documenting Project Organization Charts** – Project charts represent the reporting relationships among the project team.
- **Developing Project Staff** – What skills are needed? What are the training needs? Are there certification requirements? What are the compliance issues?
- **Conducting Performance Assessments** – Performance assessments are the documented formal or informal assessment of the project team members' performance. After analyzing the information, project managers can identify and resolve problems, reduce conflicts, and improve overall team work.
- **Promoting a Highly Productive Team Environment** – As the leader of the project team, the project manager must actively work to identify issues and conflicts and work creatively to resolve these issues.

Many of the activities involved in managing the project team (implementing the project staffing plan, acquiring staff, identifying staff assignments, documenting organizational charts) are technical in nature – often described as the 'science' of managing the project team. The skills, attitudes and behaviors required to promote a highly productive team environment, however, depend on the project manager's ability to move beyond the 'science' of project management and engage in the 'art' of the discipline. In order to promote a highly productive team environment, the project manager must be skilled in communicating vision, encouraging shared ownership, moving agendas within and outside the organization, and managing situations where there is no direct hierarchical authority.

Managing Issues

Even projects that are comprehensively planned, fully resourced and meticulously executed will encounter issues. An issue is a risk that has now occurred (the topic of risk management will be discussed in the next chapter). An issue might be an unresolved decision, situation or problem that will significantly impact the project. The project manager needs to be ready throughout the project implementation phase to apply resources to address and resolve these issues.

Issues Management is a collaborative endeavor. Consequently, everyone on the project team is responsible for the following:

- Identifying project issues.
- Contributing to the resolution of project issues (Note: experience has shown that the people closest to the work usually know best how to resolve issues. Therefore, it is the

job of the project manager to establish an environment in which each team member is in a position to resolve as many issues as possible at their level).

- Escalating important issues to the Project Manager as soon as possible.

Nevertheless, while issue management is a collaborative endeavor, the project manager is ultimately accountable for issue management (remember that in a RACI chart there is only one individual accountable for a given task/activity).

Having a well documented issue management process is crucial to communicating and enforcing that process across your team. If issues are not resolved, the negative consequences can include the following:

- Inability to meet project timelines, cost, and schedule;
- Poor or unacceptable project quality;
- Poor reputation among communities, donors and others; and
- Post implementation disputes.

As an issue manager, the Project Manager needs to manage all four basic processes in the issue management process:

1. **Issue Identification and Tracking** – Identifying outstanding questions, decisions and other problems before they adversely affect the project. As such, the issue identification and tracking process is closely related to the topic of risk management (which is explored in the Monitoring, Evaluation and Control chapter of this document.) Thus, the implementation phase and the Monitoring, Evaluation and Control phases are tightly linked and normally work in parallel.
2. **Issue Analysis** – Understanding the issue sufficiently to consider future consequences of action plans made to resolve it.
3. **Issue Communication** – Communicating issues and their resolution to the right level of the organization to get them resolved, or to prevent them from escalating into risks.
4. **Issue Control** – The project manager is responsible for establishing an environment where the project team and implementing partners can carry out actions to ensure issues are resolved in a timely and effective manner.

The issue control process is closely related to project monitoring, evaluation and control (see the next section) and should include establishing and tracking a plan for getting issues resolved.

The most important control tool is the issues log, which summarizes the issues, their current status and who is currently responsible for addressing them. The issues log can take on a variety of technical forms from paper to a fully integrated database. A sample format can be found below.

Issue Log

Issue Reference	Report ed By	Description	Date Reported	Assigned To	Date Assigned	Status	Status Date
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By the end of the project there should be no outstanding issues left to resolve. This does not mean that every issue can be dealt with during the project. It may be that some concerns cannot be dealt with and appropriate responses should be made to those concerned. Other issues may be deferred, or addressed in a future project. Bear in mind that a perfect issues management system may be expensive, if not unachievable. It is normal to accept a reasonable level of imperfection, based on calculations of the trade-offs between value versus cost, benefit, risk and time.

Managing Organizational Capacity

Within the context of the project implementation process, the project team and any implementing stakeholders need to have the capacity (technical, material, financial, administrative and managerial) to implement the project strategy and its related activities. As indicated in Chapter 1 of this section, many organizations conduct organizational capacity assessments during the Project Identification and Design phase. When managing the organizational capacity of implementing stakeholders, these assessments can be used as a baseline for managing capacity issues. The project team should keep three questions in mind as they manage the organizational capacity of stakeholders:

- What materials (vehicles, computers, other) financial, human and managerial capacities already exist and are they sufficient to implement the proposed project strategies?
- Which of these capacities already exist but need to be increased or expanded to implement the proposed project strategies?
- Are there additional capacity-building objectives that need to be included in the project design?

When managing organizational capacity, care should be taken to comprehensively address the entirety of the support, administrative and logistic system required for successful implementation, including:

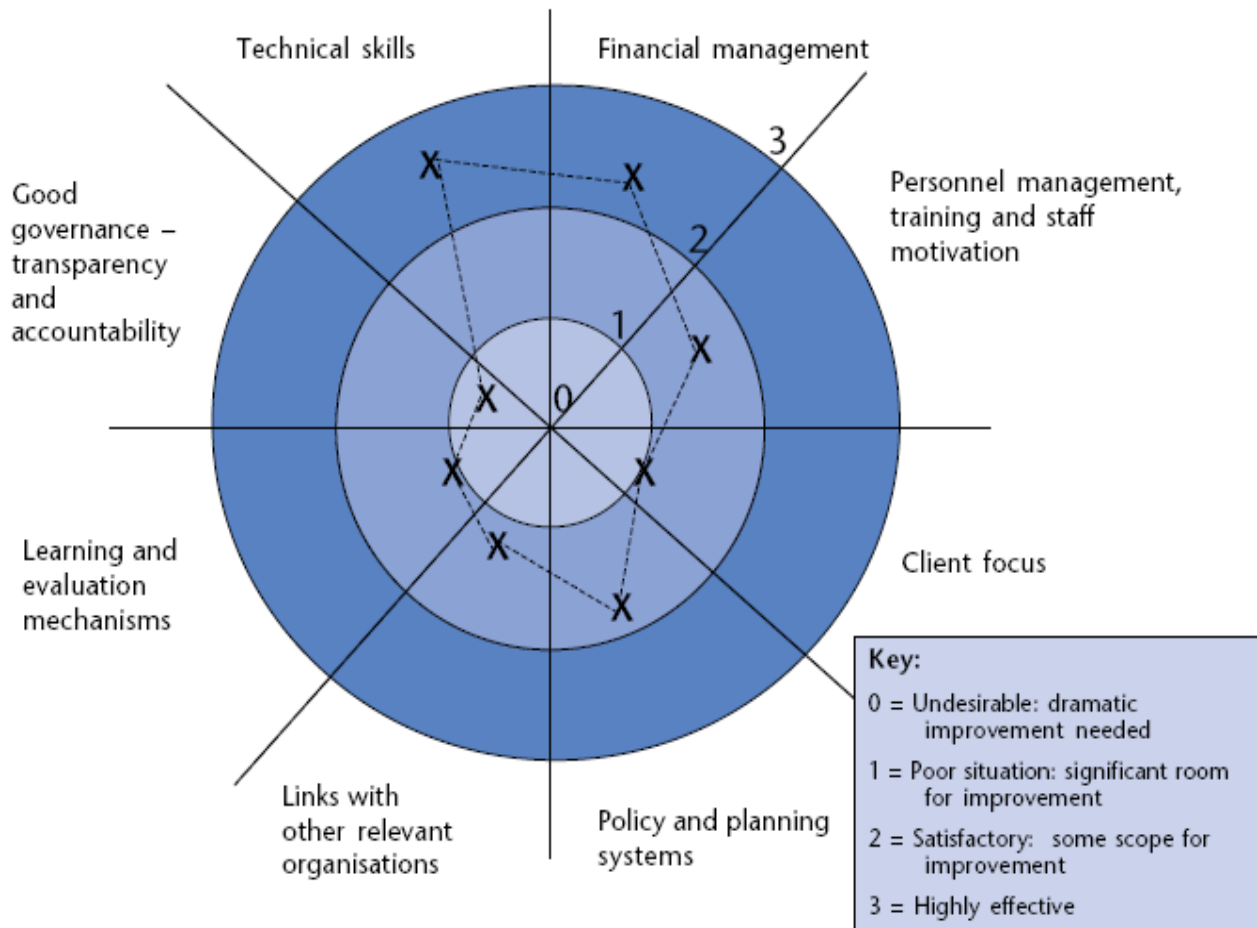
- Human Resources Capacity and Systems
 - ✓ Do systems exist to acquire staff?
 - Is there a project staffing plan with clear skills and resources identified?
 - Are HR policies documented and in compliance with local laws and organizational regulations?
 - ✓ Do systems exist to manage the Project Team?
 - Do HR systems exist for timesheets, performance reviews, HR Policies?

- ✓ Do systems exist to develop the Project Team?
 - Do job descriptions exist?
 - Training opportunities and plans?
- Procurement
 - ✓ Do systems exist for Request for Proposals to identify potential vendors?
 - ✓ Do vendor selection criteria exist?
- Financial
 - ✓ Do systems exist for cash management? Expense management? Financial reporting?
- Inventory
 - ✓ Do systems exist for the identification and tracking of inventory?
 - ✓ Do systems exist for the use/transfer/disposal of equipment following project closure?
- Contracts and Agreements
 - ✓ Do systems exist for grants management?
 - ✓ Do systems exist to manage vendors? Consultants?
 - ✓ Do systems exist to manage relationships with implementing organizations?
- Communications infrastructure
 - ✓ What capacity exists for communications? Telephones, internet, radio?
- Security protocols
 - ✓ Is there need for special security arrangements? Travel guidance? Accompaniment programs? Other?
- Information Management
 - ✓ Is there a record keeping system (paper/electronic) in place?
 - ✓ Do policies and standards exist for information management?

One method used to identify and manage organizational capacities is called 'spider diagrams.' The spider diagram resembles a web, where each of the axes of the web correspond to an element of organizational capacity. The axes can include any number of elements, including (but not limited to) leadership, relationships, organizational focus, good governance, etc. The axes of the spider diagram are adaptable, and should reflect whatever is important with regard to the capacities required for the project.

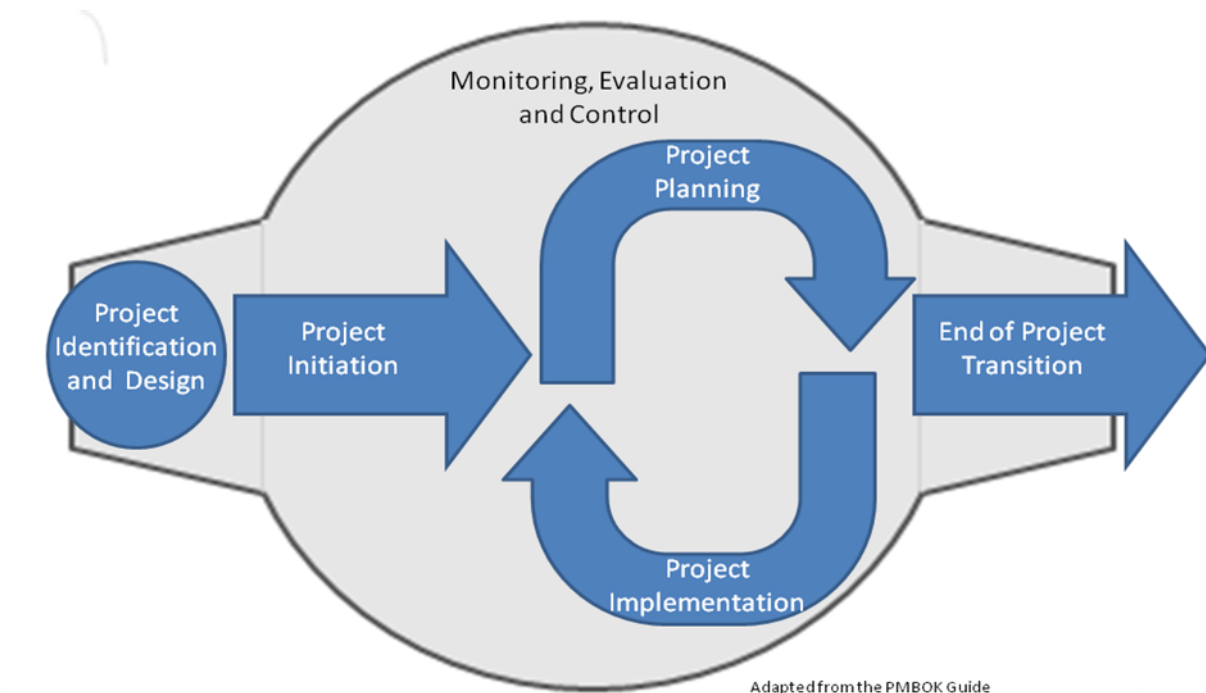
The image below is a spider diagram which measures the organizational capacity of an implementing partner involved in the River Delta Project. This completed spider diagram can serve the following purposes:

- Serve as a visual tool to tell the story of the organizational capacity
- Serve as a tool from which to plan organizational capacity building plans
- Serve as an initial reference point to assess improvements in organizational capacity.



Section 2: Chapter 5

Project Monitoring, Evaluation and Control



Even projects with exceptional planning, optimal resources and rigorous implementation will not automatically achieve their desired results. Throughout the project life cycle, challenges/problems/issues will arise and it is the responsibility of the project manager to keep control of the project to the end. Fortunately, there are indispensable tools that assist the project manager's efforts to ensure that the project are tracked, measured and controlled.

These tools can generally be organized into four categories:

- **Project Monitoring:** Constantly checking to ensure that the implementation is progressing as planned.
- **Project Evaluation:** Assessing whether the expected benefits will be delivered and are still valid.
- **Project Risk Management:** Actively identifying and managing project risks that may influence the capacity of the project to achieve its results for the end population to take advantage of the project benefits.
- **Integrated Change Management:** Ensuring that all proposed project changes (scope, budget, schedule, quality, procurement, monitoring and evaluation, procurement, transition, etc.) are assessed and logged, and appropriate action is taken.

It is important to remember that the project implementation plan is a model of how the project is expected to progress. The Monitoring, Evaluation and Control processes continually compare actual performance to the project implementation plan (variance analysis). When variance is found, the project teams needs to analyze the cause of the variance, identify potential corrective actions, and implement changes to realign the model (project implementation plan) with the reality of the project context. Changes are first made to the project plan so that consequential implications on other aspects of the project can be considered. When the project team and other stakeholders are confident that the proposed actions will have the desired effect, the revised project plan is approved and communicated. Work then continues according to the revised plan.

Differentiating between Project Monitoring and Project Evaluation

Within the international development sector, it is the norm to find monitoring and evaluation referred to as tandem processes. While it is a natural tendency to think of the two as complementary and aligned, it is important to retain clarity with regard to two important questions:

- What is the difference between monitoring and evaluation?
- Why does the international development sector heavily emphasize the importance of project evaluation, whereas other sectors do not?

Both these questions are best answered by revisiting the structure of the logical framework. You will recall that the PMD Pro1 subscribes to a four-level model of the logical framework – while recognizing that other models exist.

Monitoring activities primarily correspond to the lower two levels of the project logical framework (activities and outputs) and also correspond to the inputs required to execute the project activities. These activities differ from evaluation activities in their purpose, frequency and approach. The table below provides a summary of the ‘what, why, when and how’ of project monitoring:

Project Monitoring in the Development Sector

What	A continuous review of project progress at the activity and outputs levels Identify necessary corrective action.
Why	Analyze current situation Identify issues and find solutions Discover trends and patterns Keep project activities on schedule

	Measure progress against outputs Make decisions about human, financial and material resources
When	Continuous
How	Field Visits Records Reports

Project evaluation activities primarily correspond with the upper two levels of the logical framework (outcomes and goals). Data at the outcome level is collected and analyzed less frequently and often requires a more formal intervention (often by technical advisors or external evaluators) to show project results. The frequency with which this information is monitored is a project management decision and depends on the resources (money, time and staff) that the project plans to invest at this level of data collection and analysis. While project evaluation activities might include reviews of progress at the first two levels of the logical framework (activities and outputs), the more ambitious (and fundamental) objective of the evaluation will be to measure the outcome and goal levels of the logical framework.

Project Evaluation in the Development Sector

What	Gathering and analyzing information to determine: - Progress towards delivery of activities/outputs; and - Contributing to achievement of outcomes/goals
Why	To measure project effectiveness To determine whether outcomes have been achieved To learn how well things are being done To learn lessons for future improvement
When	Periodically (the frequency depends on the resources the project is willing to invest) – typically there are midterm, end-of-project and post project evaluations
How	Internal evaluation External evaluation

Note: Even though project monitoring and evaluation have been presented as unique, the two measurement approaches meet, merge and overlap at the intersection of outputs and outcomes in the logical framework. It is sometimes appropriate to monitor outcome level indicators and, at other times, to include output level indicators in evaluation processes.

With regard to the question of why project evaluation is central to project management in the international development sector and less prioritized in other sectors, recall that the project logical framework approach is unique to the international development sector. Few project managers working in other fields assume responsibility for changes at the outcomes and goals

levels, so they normally assess projects by monitoring the input, activity and output levels – letting others assess whether their projects deliver the impact at the outcomes and goal levels.

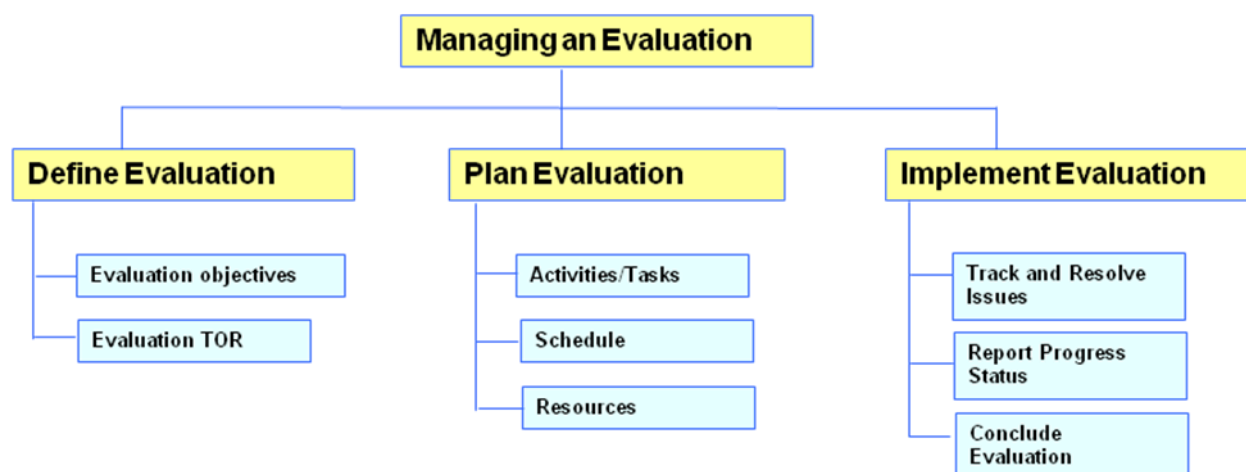
Requirements for International Development Project Monitoring

In the international development sector, as a minimum standard, every monitoring system is encouraged to include six essential elements:

1. Indicators	- Clearly defined - Baselined - Systematically measured
2. Schedule and budget	- Time and money are allocated for monitoring tasks - Schedule details processes for data collection, review, summary, analysis, and feedback
3. Staff/partners	- Clearly identified monitoring responsibilities - Competencies - Plan monitoring activities with the community - Build capacity of community members on community-based monitoring systems - Use participatory monitoring techniques - Gather and verify monitoring data - Process monitoring data
4. A Full CRSAP Data Cycle	There is a full cycle from data collection to discussion of results with partners C = Collection R = Review S = Summary A = Analysis F = Feedback
5. Data Management	- Procedures exist and are used to ensure integrity of data - Proper storage of data
6. Link to the next level	The project monitoring system is linked to the next level in the system

Requirements for International Development Project Evaluation

While not required to be an expert evaluation specialist, a project manager must be able to define, plan and implement the evaluation processes in collaboration with internal team members and/or external consultants. The following graphic details some of the primary evaluation management tasks:



The Monitoring and Evaluation Plan

Developing monitoring and evaluation (M&E) systems starts long before project implementation. Initial project design strongly influences the ease with which M&E is implemented later on in the project life cycle. Strong project design makes it easier to create and align comprehensive monitoring and evaluation systems.

During the planning phase, the monitoring and evaluation plan is developed, establishing the information system you put in place to track and measure project progress, performance and impact. The appropriate time to develop a Monitoring and Evaluation plan is after the project is approved for funding but before the start-up of interventions. The Monitoring and Evaluation plan expands on the information provided in the logical framework and the project proposal; and includes additional categories for each of the levels of the project logical framework. While the format of project monitoring and evaluation plans varies, the plan usually includes the following information:

1. What indicators are being monitored and evaluated?
2. What information is needed to track the indicator?
3. What are the sources of the information?
4. What data collection methods are appropriate?
5. Who will collect the information?
6. How often will it be collected?
7. Who will receive and use the results?

Below is an example format of a project monitoring and evaluation plan:

Hierarchy	Indicators	Info Needed	Sources of Data	Methods of Data Collection	Who Collects	Frequency of Collection	Users
Goal							
Outcomes							
Outputs							
Activities							
Inputs*							

* Note that some monitoring and evaluation plans not only track the progress against the activities, outputs, outcomes and goals that are consistent with the project logical framework, but also monitor the inputs that are required to implement project activities.

Developing Indicators for Monitoring and Evaluation

When developing indicators, the norm is to use SMART criteria to guide performance indicator conceptualization. SMART is an acronym with the following meaning:

- **Specific** – What does the project intend to change?
- **Measureable** – Can the indicator be assessed objectively and independently?
- **Achievable** – Is it possible for the objective to accomplish the indicator?
- **Relevant** – Is the indicator applicable to the context and the project as well as practical or cost-effective to use?
- **Time-bound** – By when will the indicator be achieved? Can the indicator be achieved when it is required?

The primary purpose of indicators at the output and activity levels is to ensure the day-to-day operations of the project are on track. It is important that indicators include a check that the output has been produced to the specified/acceptable quality and is complete, as well as simply confirming its existence. Potential problems are identified so that corrective action can be taken when necessary, and quality maintained. Monitoring these indicators provides feedback to implement corrective or preventive actions to bring the project into compliance with the project management plan or, if necessary, to modify the project management plan appropriately.

Examples of Monitoring Indicators at the Output and Activity Level

	Agriculture Example	Microfinance Example	Water Example
Outputs – ‘The tangible products or services’	Number of farmer groups farmers created - competence of trainees	Number of clients receiving and correctly using credit Number of clients participating in savings programs	Number of new water systems installed and properly functioning
Activities – ‘Tasks or	Number of staff visits to	Number of staff visits to	Number of

actions taken to implement project interventions'	farming communities Number of training sessions organized	villages Number of bank training sessions - competence of trainees	communities organized for water system installation
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Examples of Evaluation Indicators at the Outcome and Goal Level

	Agriculture Example	Microfinance Example	Water Example
Goals – 'Are the project outcomes contributing to a larger impact within the target communities'	% of families who produce enough food to cover lean periods Decreased % of malnourished children	Increase in net household income Positive change in household consumption patterns	Reduced morbidity and mortality from water related diseases
Outcomes – 'Are the project outputs resulting in the desired project outcomes?'	% of families adopting improved techniques % of hectares covered with improved techniques	% of households with increased working capital	% of households using safe water supply Increase in per capita consumption of water

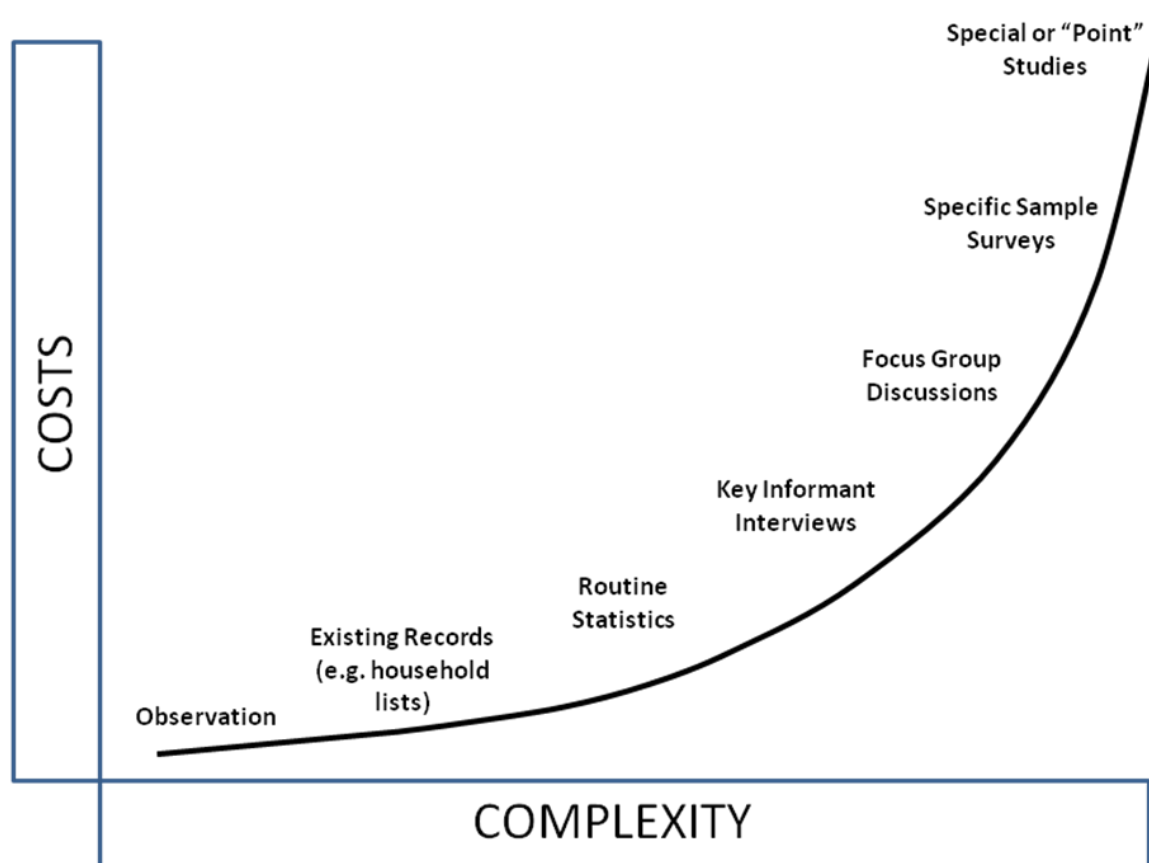
*Note – While projects are expected to contribute to the achievement of the goal level indicators, it is NOT the responsibility of the project to achieve (or to monitor) the goals.

Methods for Data Collection

The method of collecting indicator data will depend on whether the measures are quantitative or qualitative. The choice of collection method is based on multiple criteria, two of which are:

- **What information are you trying to collect?**
 - ✓ **Quantitative** methods focus on the breadth of the intervention, providing objective and reliable information that allows for generalization of results to a wider population. The most commonly used quantitative method is a standardized questionnaire that is administered to a random sample of individuals or households within a target population.
 - ✓ **Qualitative** methods focus on direct and in-depth interaction with participants, providing rich and detailed data. Commonly used qualitative methods include participatory rural appraisal techniques, focus groups, community or key informant interviews, and observation.
- **What is the acceptable level of cost and complexity for data collection?**
 - ✓ The cost and complexity of data collection can vary considerably based on the method of collection used to collect the information. The graph below provides a comparison of multiple data collection methods (quantitative and qualitative) in terms of cost and complexity.
 - ✓ While there are many considerations (budget, resources, staff, donor requirements, etc.) to keep in mind when selecting the most appropriate data collection methods for

project monitoring, the primary determinant for monitoring the project (cost and complexity) should be improvements that will result from better data.



Risk Management

While much of the attention in monitoring and evaluation focuses on the vertical elements of the project logical framework (inputs, activities, outputs, outcomes, goal), the project team must also monitor the project assumptions (which comprise the horizontal logic). These assumptions correspond to the risks that could, potentially, impede project success.

	Description	Indicators	Means of Verification	Assumptions
Goals				
Outcomes				
Outputs				
Activities				
Inputs				

Project risk is the possibility that something may go wrong, or at least not turn out as planned. Risks are different for each project, and risks change as a project progresses. Project-specific risks as they might appear in the assumptions column of the logical frameworks could include the following:

- Does the government policy/priority support the project strategy and goals?
- Are there new investments/developments in the project area that could impact project objectives?
- Will changes in the socio-cultural context affect the project?
- Are there changes in the political/security situation?
- Is the economic situation stable (exchange rates, banking systems, devaluation risks)?
- What are the relationships with key stakeholders like?
- Could the project lose key employees?
- Are vendor availability and skills reliable?

The goal of risk management is to 'gain control' over these risks; and to identify, analyze and respond to risks in a cost-effective way. Risk management seeks to maximize the probability and consequences of positive events and to minimize the probability and consequences of adverse events. In practice, project risk management focuses on the following questions:

- Are we tracking the context of the project?
- Are we revisiting the critical assumptions and risks that may affect the capacity of the project to act?
- What is the capability of the target population to respond to the project?
- Are we ensuring that proper risk management policies and procedure are being followed?
- Are we identifying alternative strategies, contingencies or fallback plans?
- Are we allocating sufficient funds to address project risks?
- Are we taking corrective action to prevent or fix problems, rather than simply allocating more money and time to them?
- Have changes in the environment, such as new systems or leadership, created new risks that need to be managed?

Preparing a project-level risk management strategy helps ensure that the process is effectively carried out. Key elements of the project risk management process include the following:

- Risk identification (identifying and documenting all the risks that can affect the project);
- Qualitative risk analysis (determining the consequences of identified risks on project objectives);
- Quantitative risk analysis (assigning numeric probabilities to risks and their impact on project objectives);
- Risk response planning (deciding what actions are needed to reduce or remove threats, particularly high-probability, high-impact ones); and
- Risk monitoring and control (responding to risks as they occur and ensuring proper risk management procedures are being followed).

Once identified, risks should be managed using a combination of the following strategies:

- **Risk Avoidance** – Do not do (or do in a different way) some portion of the scope that carries high-impact and/or a high probability of risk – if project objectives can still be accomplished. Examples: limit the geography if a certain area is problematic; or reduce the number of delivered items, such as latrines, if the project is short of building materials.
- **Risk Transference** – Shifting the risk (or sharing the risk) for some aspect of project to another party through a contract, insurance or other means. Example: logistics contracts in an insecure area are sub-contracted to private vendors with more knowledge and experience of the area.
- **Risk Mitigation** – Taking specific actions to reduce the probability and/or impact of a potential risk. Example: institute a security system that prevents unauthorized access to project building material storage areas.
- **Risk Acceptance** – If a risk is assessed as reasonable, an organization can choose to not take action right now and commit to monitoring the situation to see whether probability and impact remain acceptable. Example: a community may acknowledge that they face a risk of seasonal mudslides, but choose to live with the probability and consequences of a mudslide rather than attempt to avoid, transfer, or mitigate them.

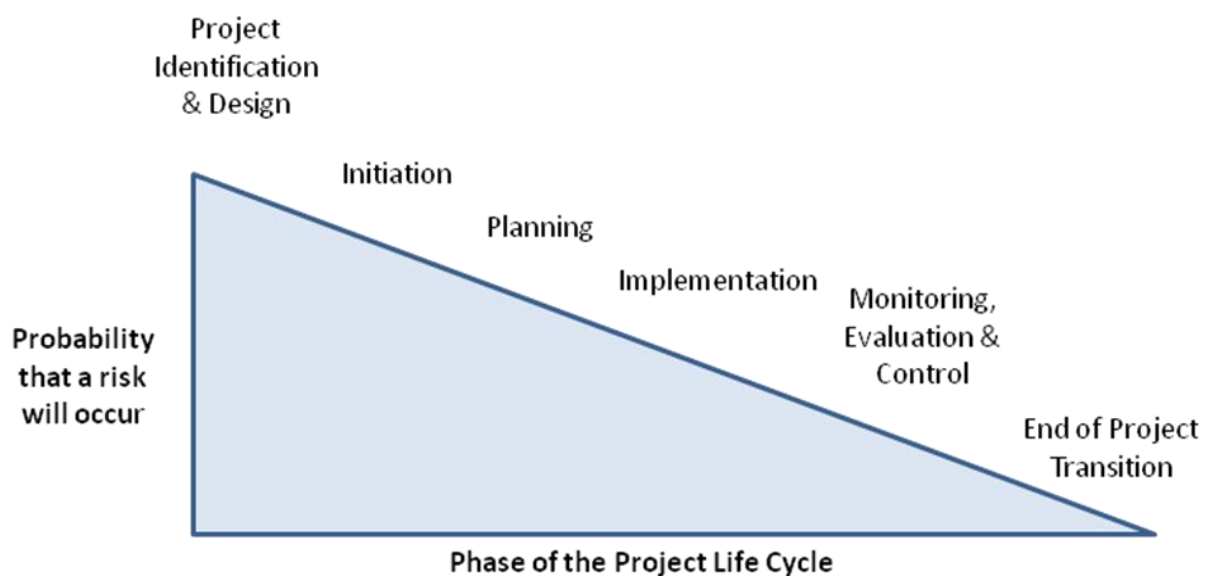
Risk is present throughout the entirety of the project. Therefore, it would seem intuitive that risk be managed during every project life cycle phase. In practice, however, projects tend to invest in risk identification and risk management early in the project design cycle and then fail to monitor and manage these risks as the project evolves. International development projects often identify a limited list of project risks during the development of assumptions for the project logical framework, but fail to recognize the importance of continuing to manage risk as the project moves through subsequent life cycle phases.

All too often, project managers and team members get caught up in the day-to-day tasks of implementing new projects and forget the critical need to step back and reassess probable risks – or to be alert to any new risks that have arisen – and ensure that additional steps are taken to avoid or mitigate risks as necessary.

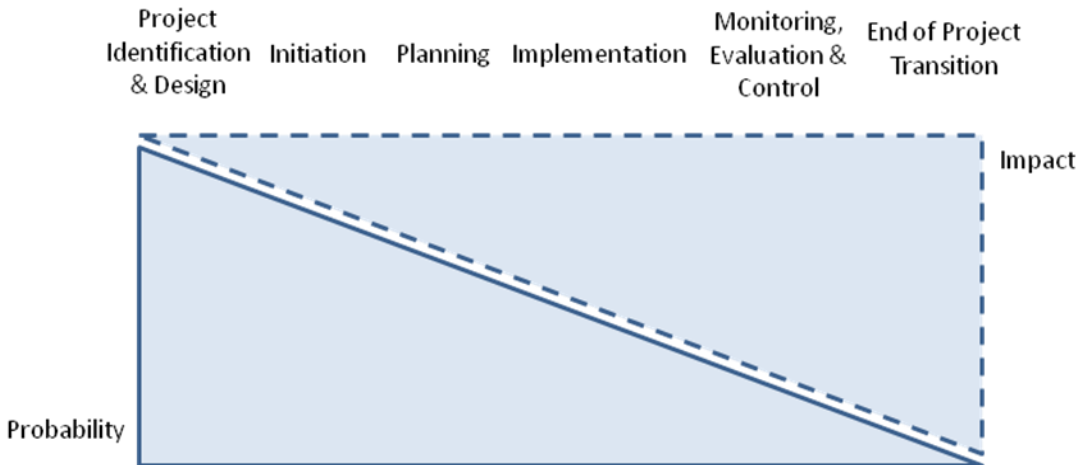
In the absence of continuing, iterative risk management, project managers will find themselves in a situation where project risks are assessed as being ‘out of the control’ of the project and fail to proactively manage the risks – whether they be bad weather, political disruptions, procurement problems, exchange rate fluctuations, or any of the many other risks endemic to international development projects. Risk identification is ongoing, not just at the start of the project.

Finally, while risk exists throughout the life of a project, the probability that impact will occur, and the impact of potential risks, can vary considerably depending on the project life cycle phase of the project.

Early in the project life cycle, risk probability (the likelihood a risk will occur) is higher, mainly due to the number of unknown factors and uncertainties that exist. As the project moves through the life cycle, however, risk probability decreases as the number of uncertainties and unknown factors diminish. Risk probability over the project life cycle is illustrated in the following graphic, where risk probability is inversely related to the progression of time.



While risk probability is higher during the early phases of projects, the impact of risk is likely to be less severe at that time. This is in part because during the early stages of the project, there is much less to 'lose' as a result of project risk. Project investments have been relatively low and there is much more flexibility to make changes and deal with risk. Conversely, as the project moves into the later phases, the impact of risk becomes much more serious. In effect, the project has much more to lose. This is attributed to the fact that, as time passes, significant resources have likely been already sunk into the project. Furthermore, there is less flexibility in dealing with risk later in the project, and more resources may be needed to resolve problems. The following image illustrates the inverse relationship of risk probability and risk impact as the project progresses through the life-cycle processes.



Integrated Change Management

Because projects seldom run exactly according to the project management plan; integrated change control management system needs to be established to help project managers maintain control of the project from inception through completion.

Changes come about on projects for many reasons. It is the project manager's responsibility to manage these changes, and see to it that organizational policies regarding changes are implemented. Changes may produce negative or positive consequences. It is important that the project manager manages this process carefully, because even seemingly insignificant changes can result in significant changes to the project's budget, schedule, scope and/or quality.

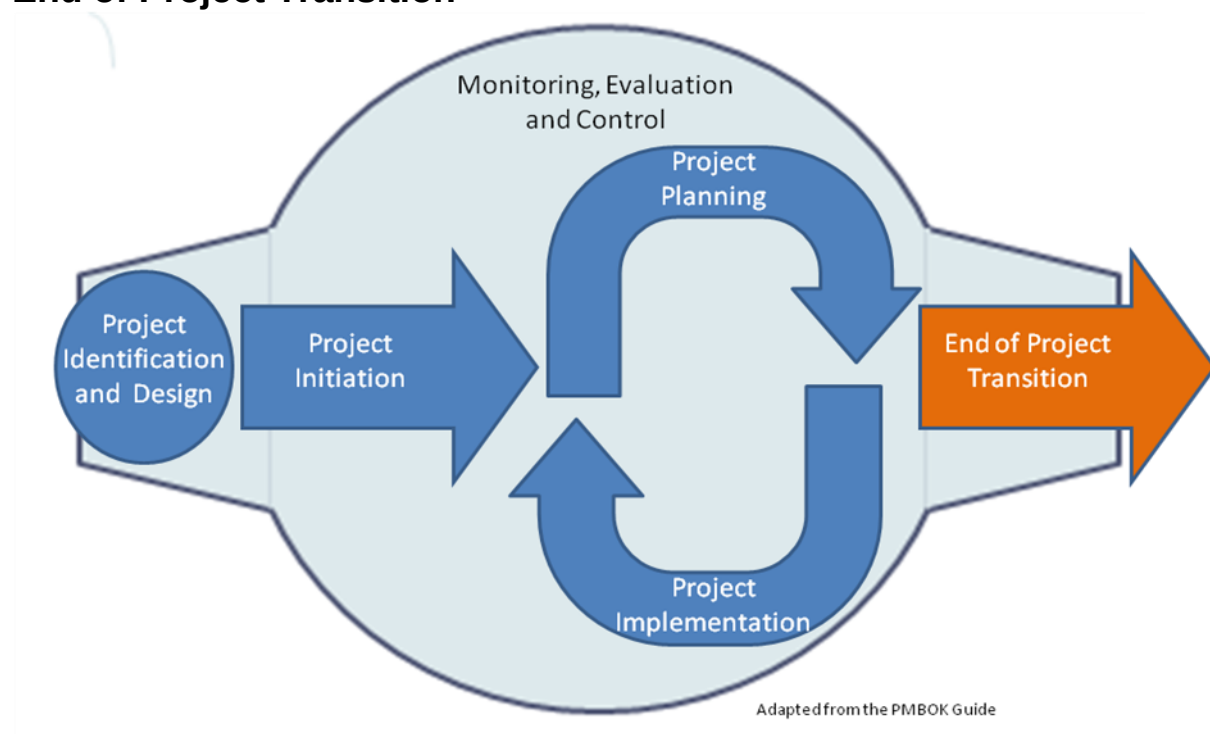
The change control process provides a method through which the project management plan, the project scope statement, and other project documents can be carefully maintained through deliberately managing changes – either by rejecting changes or by approving changes so those approved changes are incorporated into a revised baseline. The integrated change control process includes the following change management activities;

- Identifying that a change needs to occur or has occurred.
- Reviewing proposed changes, analyzing the impact they have on the comprehensive project plan.
- Approving/denying requested changes.
- Controlling and updating the scope, cost, budget, schedule, and quality requirements based upon approved changes, by coordinating changes across the entire project.
- Documenting the complete impact of requested changes.

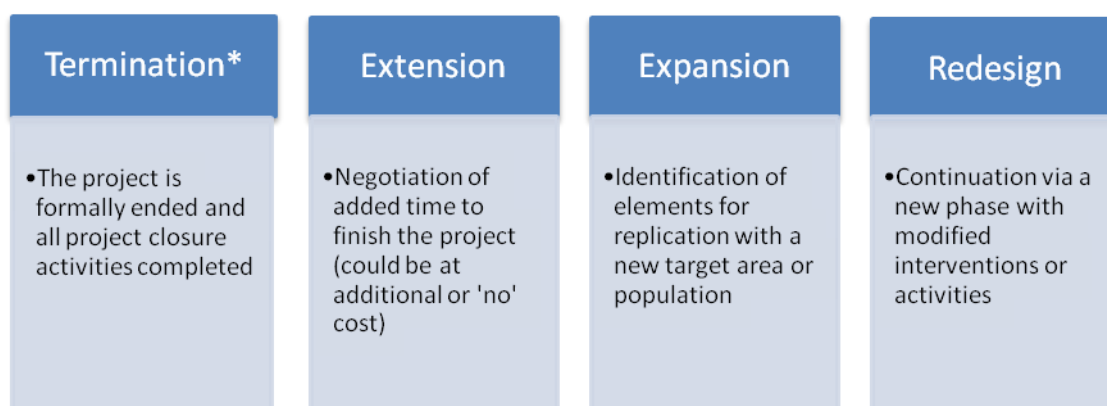
It is important that the implications a change may have on all sections of the project management plan be properly considered before the change is implemented. This will usually require a review by experts familiar with each of the areas (scope, cost, schedule, risk, procurement, etc). When it is agreed that the proposed change is beneficial and that the implications are acceptable, the change should be approved, usually by the project manager or by the project sponsor, depending on the scope and scale of the change and their limits of authority. When the change is approved, the revised project plan should be communicated to the entire project team so that everyone now works to the same (revised) plan. Donors often specify whose approval is required to make certain types of changes to a project plan after it has been approved.

Section 2: Chapter 6

End of Project Transition



A project, by definition, is a temporary endeavor, having a defined beginning and end (usually constrained by date, but possibly by funding or deliverables). The temporary nature of projects differentiates them from normal business operations of an organization (or 'on-going operations', which are repetitive, permanent or semi-permanent functional work to produce products or services). In the international development field, however, it is not unusual to find a project that has been in operation for years – with one phase of the project continuing the work of the previous phases. This observation underscores that reality that the end of a project in the international development sector is often more aptly characterized as a transition phase rather than as a strictly defined project closure. In practice, there are four end-of-project transition scenarios that exist for development projects. These four scenarios are presented in the table below:



**Termination could also include 'phasing over' or transferring the project activities to a local partner, institution or community.*

Unfortunately, while project transition is of great importance, it is often overlooked and/or under-resourced. With pressures to move on to new projects and reassign staff members to other activities, the most practical way to ensure a complete project closure is to include it in the project plan. Note that this phase is typically called 'closure' in project management literature.

When planning for the end of the project, the project manager should focus on five major responsibilities:

1. Articulate and Execute the End-of-Project Transition Strategy

An end-of-project transition plan describes how a project intends to withdraw resources while ensuring that progress towards goals will continue. A transition plan may include several scenarios or contingencies that address risks and may also allocate additional resources when it may not be possible to exit entirely. The international development sector considers transition especially important because of their concern that impacts be sustained after the project has ended. Most international development organizations also pursue sustainability as a central component of their internal values and external image.

As indicated in Chapter 3 of this section, it is important to include the anticipated end-of-project transition strategy into the initial design and planning of the project. Whatever approach the end-of-project strategy takes, it is likely that there will need to be provisions for stakeholder participation; transference of assets; investments in capacity building, etc. One tool used to

plan for the ongoing sustainability of the project is the Transition Planning Matrix as detailed below, which is highly recommended.

Transition Planning Matrix

Questions to ask: What are your project's goals and outcomes? What parts of your project's goals and outcomes do you want to sustain?			
Component	Key Questions	Guiding Principles	Challenges
1. Plan for transition from earliest stages of ID and Design	✓ What type of transition is envisioned? ✓ What is the timeline and what are benchmarks?	➤ Ongoing project review and revision ➤ Transparency; especially funding	❖ Balancing firm commitments with flexibility ❖ Allowing adequate time to develop capacity
2. Develop partnerships and local linkages	✓ Selecting the right partners? ✓ What do partners bring?	➤ Diversity; may need other project inputs ➤ Clear and common goals	❖ Aligning needs and objectives of diverse stakeholders ❖ Supporting local partners without dependencies
3. Build local organizational and human capacity	✓ What capacities are needed? ✓ What capacities exist?	➤ Build on existing capacity if possible ➤ Create environments to support capacities	❖ Designing monitoring to track capacity building ❖ Providing incentives and retaining experienced staff
4. Mobilize local and external resources	✓ What inputs are needed to maintain services? ✓ Can benefits be sustained without ongoing inputs?	➤ Procure resources locally where possible ➤ Increasingly bring external resources under local control	❖ Difficulty finding adequate or available local resources ❖ Other funders not 'buying-in' to original objectives
5. Stagger phase out of various activities	✓ What are key project elements? ✓ Which elements are dependent on others?	➤ Flexibility; staggering sequence may change upon implementation	❖ Sufficient time allowed in the project cycle to start seeing the intended impact and outcomes
6. Allow roles and relationships to evolve after transition	✓ What types of ongoing support (advice, mentoring, Technical Assistance, etc.)? ✓ How will ongoing support be funded?	➤ Prevent slippage of project's intended results by including in extended, expanded or redesigned project	❖ Availability of funding for ongoing support ❖ Availability of staff who can focus sufficient time and energy on ongoing support

2. Verify the Project Scope and the Acceptance of Deliverables

The project manager should contact the internal and external stakeholders to verify that the scope of the project has been accomplished and that the deliverables are accepted. This usually takes place in a two-step process:

- The project implementation team meets to crosscheck work completed against the project implementation plan. There may be, for example, activities that were delayed early in the project and never performed later.
- Meet with the key stakeholders (donors, community groups) to:
 - ✓ Review accomplishments against the project plan, and then get their acceptance documented by some kind of formal acknowledgement or acceptance.

- ✓ Make sure they are satisfied, not just with the technical aspects of the project, but also with the overall outcomes (this is often as much about perception as it is about the existence of outputs and achievement of outcomes).

3. Complete the Administrative, Financial and Contractual Closure of the Project

If the project were to be audited two years following closure, what would happen? Do systems exist to ensure that the administrative, financial and contractual elements of project closure are complete?

Contract closure

- Are all contracts closed out? Vendors? Sub-contractors? Donors? Others? Implementing organizations?
- Has the donor reviewed and accepted project deliverables?

Financial Closure

- Has all permitted funding been received from the donor?
- Have all receivables (project advances, travel advances, and advances to vendors) been liquidated or transferred to another project number or accounting code?
- Have all payables been paid?

Administrative Closure

- Have project personnel been released or reassigned?
- Have the project equipment, vehicles, offices been reallocated? Sold? Transferred?
- Are project reports and closure documents complete?
- Are project archives and/or files up to date?

4. Complete End of Project Learning

Lessons learned are the organization's memory bank. As indicated in previous sections of this document, ideally, the project team will track lessons learned as they occur, or at least at major evaluation points or milestones throughout the project. At the end of the project, it is important to ensure that the lessons learned related to the project are adequately detailed, and are filed and easily accessible. Lastly, it is critical that the project manager distribute the lessons learned to those who can benefit from them. Without a system to capture end-of-project learning, the organization will perennially reinvent the wheel each time a decision is made to pursue a similar project. Donors are often interested in assuring that learning is disseminated throughout the sector to ensure that new projects benefit from learning generated by other projects they have funded. Nowadays, NGOs often publish evaluation reports, and databases exist which include thousands of evaluation reports from many different organizations.

A learning review, also called an 'After Action Review', is a simple, quick and versatile learning activity that can be used to identify and record lessons and knowledge arising out of a project.

Learning reviews are relatively straightforward to organize and implement. During the review, questions are asked that help participants understand what was planned versus what actually happened:

- What did we set out to do?
- What did we achieve? Focus more on facts than opinions.
- What went really well? Again, look at the facts. Why did it go well? Compare the plan to reality. Identify successes.
- What could have gone better? Compare the plan to reality. What prevented us from doing more? Identify challenges.
- What can we learn from this?

The advantage of a learning review is that it can collect useful information relatively quickly and without expending extensive resources. The facilitation of the review is intended to be quick, open and not focused on deep thinking and discussion. The primary intent is to inform decisions on operations, policy, or strategy related to ongoing or future program interventions.

An evaluation, as compared to a learning review, is often far more formal, collecting information that will permit judgments about the project's overall success and value. Common evaluation questions include:

- Did the project succeed at accomplishing the outcomes, goals and impact desired?
- Was the project relevant, effective and efficient?
- Does the project have the potential to be sustainable in its operations and impact?
- Is the theory expressed in the logical framework upheld?

Organizations must choose what evaluation approach they intend to implement based on their learning objectives. Two evaluation approaches that are extensively used in the international development sector are the final evaluation and ex-post evaluation. A final evaluation, often mandated by a funding agency or required by a development organization's own policy, would be conducted towards the end of project. An ex-post evaluation examines project impact at a defined period of time after project completion, sometimes a year after the official close of the project. Sometimes called a sustainable impact evaluation, an ex-post evaluation measures the extent to which project **outcomes and impacts** have been realized through participant ownership. Ex-post evaluation findings can be an especially useful way of using evidence to advocate an improved development approach. For example, an ex-post report was used by one international development organization to help convince a donor to support numeracy and literacy training within a microfinance program.

5. Celebrate Accomplishments

Mirroring the purpose of the project launch described as part of the project initiation phase, a project manager should appropriately celebrate and formally acknowledge the project transition by:

- recognizing the efforts of team members;
- acknowledging the contributions of key stakeholders to the project; and
- expressing appreciation to individuals and groups who were critical to the project success.

Recognition of the project accomplishments within the organization and to the outside world may also help facilitate positive public relations and prepare the way for future business opportunities.

Appendix 2

Glossary of Terms

Activities	The actions taken through which inputs (financial, human, technical, material and time resources) are mobilized to produce deliverables (training, constructing, etc.) of a project for which staff can be held accountable and which, when aggregated, produce outputs
Asset-based	Methodology that seeks to uncover and highlight the strengths within communities as a means for sustainable development
After Action Review	A simple, quick and versatile learning activity that can be used to identify and record lessons and knowledge arising out of a project
Assumptions	Hypotheses about necessary conditions, both internal and external, identified in a design to ensure that the presumed cause-effect relationships function as expected and that planned activities will produce expected results
Baseline	A factual point of reference about the conditions or performance prior to the commencement of an intervention – necessary to serve as the basis for project monitoring, evaluation and control
Bloom's Taxonomy	A classification of knowledge/skill levels that provides a structure for learning design
Capacities	Abilities, skills, understandings, attitudes, values, relationships, behaviors, motivations, resources and conditions that enable individuals, organizations, networks/sectors and broader social systems to carry out functions and achieve objectives over time
Certificate	A document issued to a person completing a course of study
Competencies	Integrated sets of skills, knowledge, attitudes and behaviors required to perform effectively in a given job, role or situation
Concept Note	A high-level overview of a project written to solicit feedback before committing resources to develop an expansive proposal
Credential	Proof of qualification, competence or clearance that is attached to a person
Critical Path	The sequence of activities that represents the longest path between the start of the project and the project's end
Decision Gate	Major control points used to conclude and accept the products for a particular phase of the project and to move on to the next phase
Decompose	A technique to separate or break down project deliverables into smaller elements, components or parts
DM&E	Design, Monitoring and Evaluation

Gantt Chart	A bar chart that graphically represents the schedule of project activities
Goal	The highest level desired end result or impact (transformation, sustainability, livelihood, well-being etc.) to which the project contributes – the ultimate objective in many logical frameworks
Initiation	The process of describing and deciding to begin a project and authorizing the Project Manager to expend resources, effort and money
Impact	The significant effect or longer-term result (identified with the outcomes and goal levels in many logical frameworks)
Inputs	The resources the project must mobilize and apply to project activities (human and financial resources, equipment, etc.)
International Development Organization	A spectrum of organizations that fall within a wide continuum of relief and development in their projects and practices: one end of the continuum facilitates long-term, participatory development programs in areas such as environment, health, education and agriculture; and the other end of the continuum involves more directly implementing quick and temporary relief projects for people facing starvation, homelessness or destitution because of sudden natural disasters or conflict.
Issue	A risk that has now occurred. It can take the form of an unresolved decision, situation or problem that will significantly impact the project
Issue Control Log	An accessible document or database that summarizes the issues, their current status, and who is currently responsible for resolution
Iteration	The act of repeating a process for a second, third or more times to achieve the desired goal, target or result
Network Diagram	Pictorial summary of the decisions and flows that make up a procedure or process from beginning to end
Outcomes	What the project expects to accomplish at the beneficiary level (e.g. use of knowledge and skills in actual practice over time; transportation of goods on constructed roads over time) and contribute to population-level changes (reduced malnutrition, improved incomes, improved yields, etc.) that aggregate and help bring about accomplishment of goals and impact over time
Outputs	The tangible deliverables resulting from project activities including products, goods, services and changes (e.g. people trained with increased knowledge and skill; quality roads built) that aggregate <i>and</i> contribute to outcomes
Portfolio	A mix of active programs/projects, staffing and budget allocated to each
Portfolio Management	Initiating and managing the overall portfolio of programs/projects
Program	A group of related projects managed in a coordinated way to obtain benefits and control not available through managing them individually
Project	A set of activities meeting agreed objectives in a specific period of time with an agreed set of resources

Project Charter	A document that describes the project at a high level of detail and which is used to authorize the Project Manager to begin work
Project Control	The process of measuring and reporting on progress and taking corrective action to ensure project objectives are met
Project Implementation Plan	A comprehensive and logical presentation of the detailed project model to help ensure it will arrive on time, on scope, on budget
Project Management	Planning, organizing and managing resources to bring about the successful completion of specific project goals, outcomes and outputs.
Project Manager	The responsible person who plans organizes and manages resources to bring about the successful completion of specific project goals, outcomes and outputs.
Project Proposal	A clear and concise offer that seeks approval from a potential funder for delivery of products and/or services in response to donor requests or anticipated needs
Risk	The possibility of danger or suffering loss
Rolling Wave Planning	Iterative process of providing increasing levels of detail to the project. Preparation for implementation over time
Product Scope	The full set of features and functions that characterize project results
Project Scope	The work required to deliver project results according to their specified features and functions
Stakeholders	Any person or group who has a vested interest in the success of the project – can include clients, sponsors, family, friends and the general public
WBS	A hierarchical task list created by decomposing the project into components and the breakdown of the project process into increasingly detailed tasks

Appendix 2

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