PROJECT MANAGEMENT TOOLS AND TECHNIQUES

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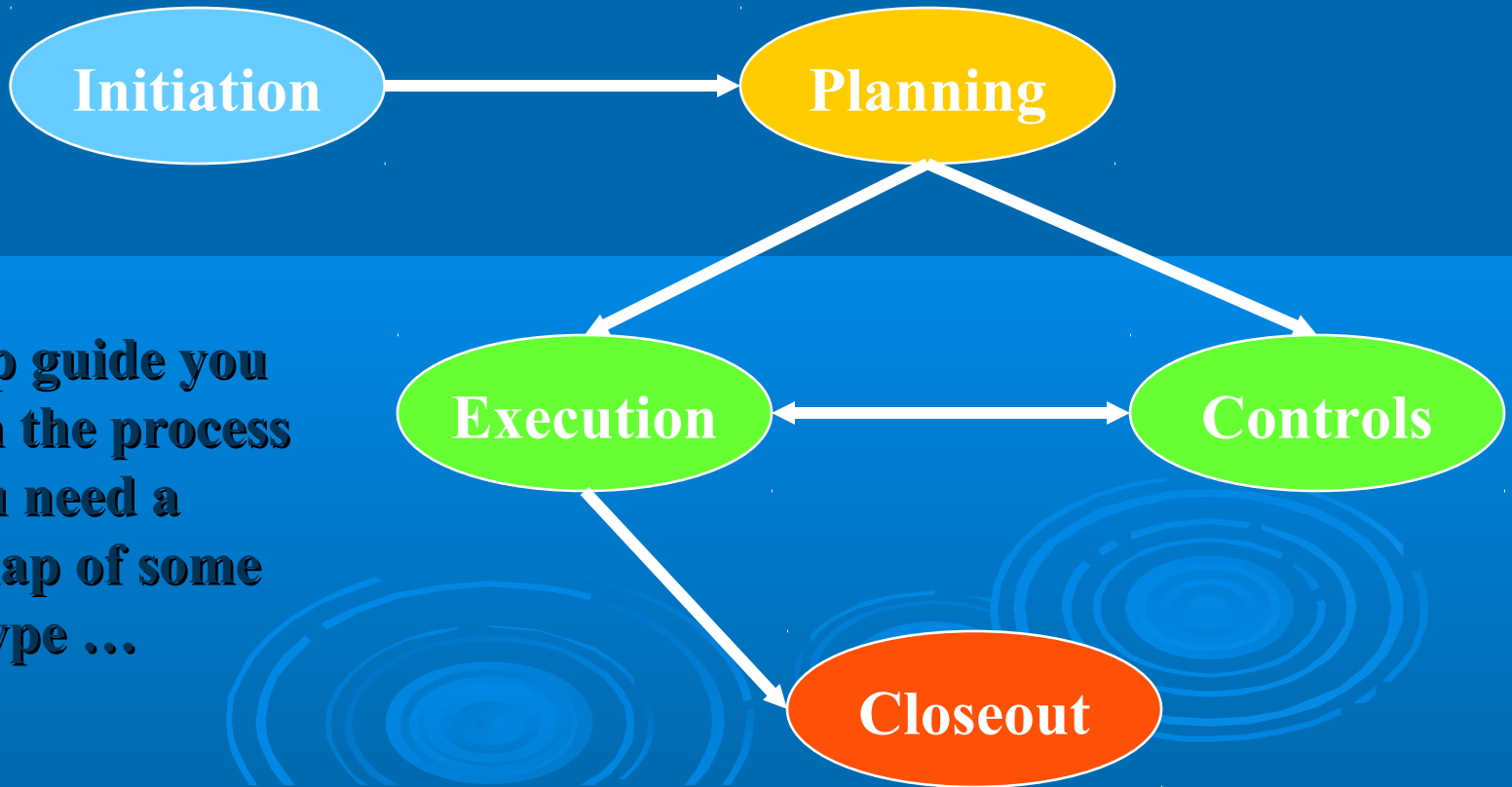
Project Management?

Organization of people, equipment and procedures in an appropriate way to get a project completed within a set timeframe and budget

Involves: Planning, organizing, leading, M & E.

To help guide you through the process you need a roadmap of some type …



PROJECT MANAGEMENT PROCESS PHASES

1. INITIATING THE PROJECT
2. PLANNING THE PROJECT
3. EXECUTING THE PROJECT
4. CLOSING DOWN THE PROJECT

1. PROJECT INITIATION

The first phase of Project Management

Process in which activities are performed to asses the Size, Scope, and Complexity of the Project and to establish procedures to support later Project activities.

PROJECT INITIATION ACTIVITIES

1. ESTABLISHING THE PROJECT INITIATION TEAM
2. ESTABLISHING A RELATIONSHIP WITH THE STAKEHOLDERS
3. ESTABLISHING PROJECT INITIATION PLAN
4. CARRYING OUT PROPER FEASIBILITY STUDIES
5. ESTABLISHING MANAGEMENT PROCEDURES

Depending on the Project some of these Initial Activities may be unnecessary and some may be very involved.

2. PROJECT PLANNING

The Project Planning provides an overall framework for managing Project Costs and schedules.

Project Planning involves defining clear, discrete “Activities” or “Tasks” and the work needed to complete each Activity.

IF YOU FAIL TO PLAN, YOU PLAN TO FAIL!

2. PROJECT PLANNING

Project Planning involves defining clear, discrete “Activities” or “Tasks” and the work needed to complete each Activity.

An ACTIVITY is any work that has a beginning and an end. And requires the use of Project resources including people, time and money.

Activities are the basic units of work that Project Manager Plans, monitors so Activities should be relatively small and manageable.

2. PROJECT PLANNING ACTIVITIES

1. Describing Project Scope, Alternatives and feasibility
2. Identifying and Assessing Project Risks
3. Dividing the Project into manageable tasks (Work Breakdown Structures-WBS)
4. Estimating and creating a Resources Plan
5. Developing a Preliminary Project Schedule
6. Developing a Project Communication Plan
7. Determining Project Standards and Procedures
8. Setting a Baseline Project Plan.

2.1 DESCRIBING PROJECT SCOPE, ALTERNATIVES AND FEASIBILITY

PURPOSE: Is to understand the content and complexity of the Project

- It consists of specific objectives, actions and activities.
- Or use AMAA (Axes, measures, actions and activities)
- Identify milestones and deliverables for the project
- Define roles of stakeholders

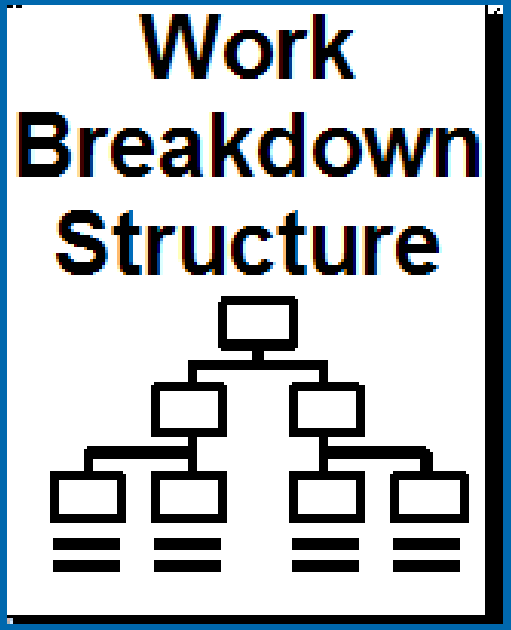
2.2 IDENTIFYING AND ASSESSING RISK

PURPOSE: Identify potential project risks, estimate the consequences and develop mitigation plan of those Risks.

- Major risks include: organizational, communication, financial, process, people, leadership, political, technological, cultural events, etc.

YOU SHOULD CONTINUALLY TRY TO IDENTIFY AND ASSESSS PROJECT RISK.

2.3 DIVIDING THE PROJECT INTO MANAGEABLE TASKS (WORK BREAKEDOWN STRUCTURE)

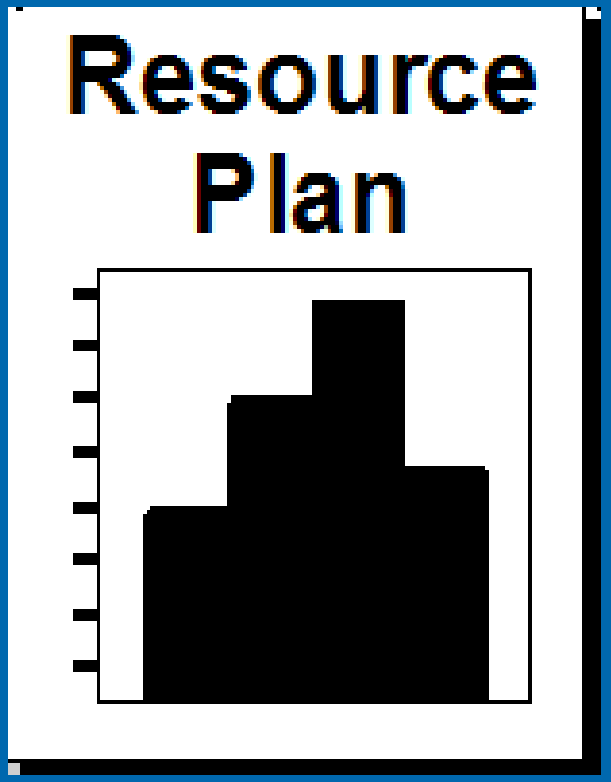


- Project must be divided into manageable tasks and then logically order them to ensure a smooth evolution between tasks.
- The definition of tasks and their sequences is referred as the Work Break down Structure (WBS).
- WBS is essential in Planning and executing the Project because it is the foundation for developing the Project Schedules (PERT and GANNT chart) for identifying Milestones in the Scheduling and for managing Costs.

2.3 Work Breake down Structure (WBS)

Phases, activities and Tasks	Duration (months)	Number of resources
Phase I: Inter-institutional Agreements		
Kickoff Surveys and creation of project taskforce	1	
Feasibility studies	?? (6)	
Concertation meetings and signing of RODs	2-3 months	
Phase II: construction of 24 bore holes on the council		
Selection of contractor		
- Launching of contract	1	
- Attribution of contract	1	
Effective construction works	6F/8months	
Phase III: rehabilitation of water infrastructure in the council		
Selection of contractors	2	
- Launching of contract	1	
- Attribution of contract	1	
Effective rehabilitation works		
- Changing of pipes	8	
- extension to new quarters	7	
- Renovation of filtering system	4	
- Capacity building to technicians (short term and long term)	2	
- Renovation of offices	3	
Phase IV: capacity building and organization of management committees		
Training of community development officers, public officials and council staff	1	
Creation of water management committees (WACs) in villages	4	
Training members of WACs	1	
Field trips for exchange of experiences	1	
Phase V: M & E		
Monitoring and supervision	After 3 months	
Evaluation	Start, mid-term and end	
Completion of project		

2.4 ESTIMATING RESOURCES AND CARRYING A RESOURCE PLAN



PURPOSE

Is to estimate Resource Requirements for each project Activity and use this information to create a Project Plan.

Types of resources :

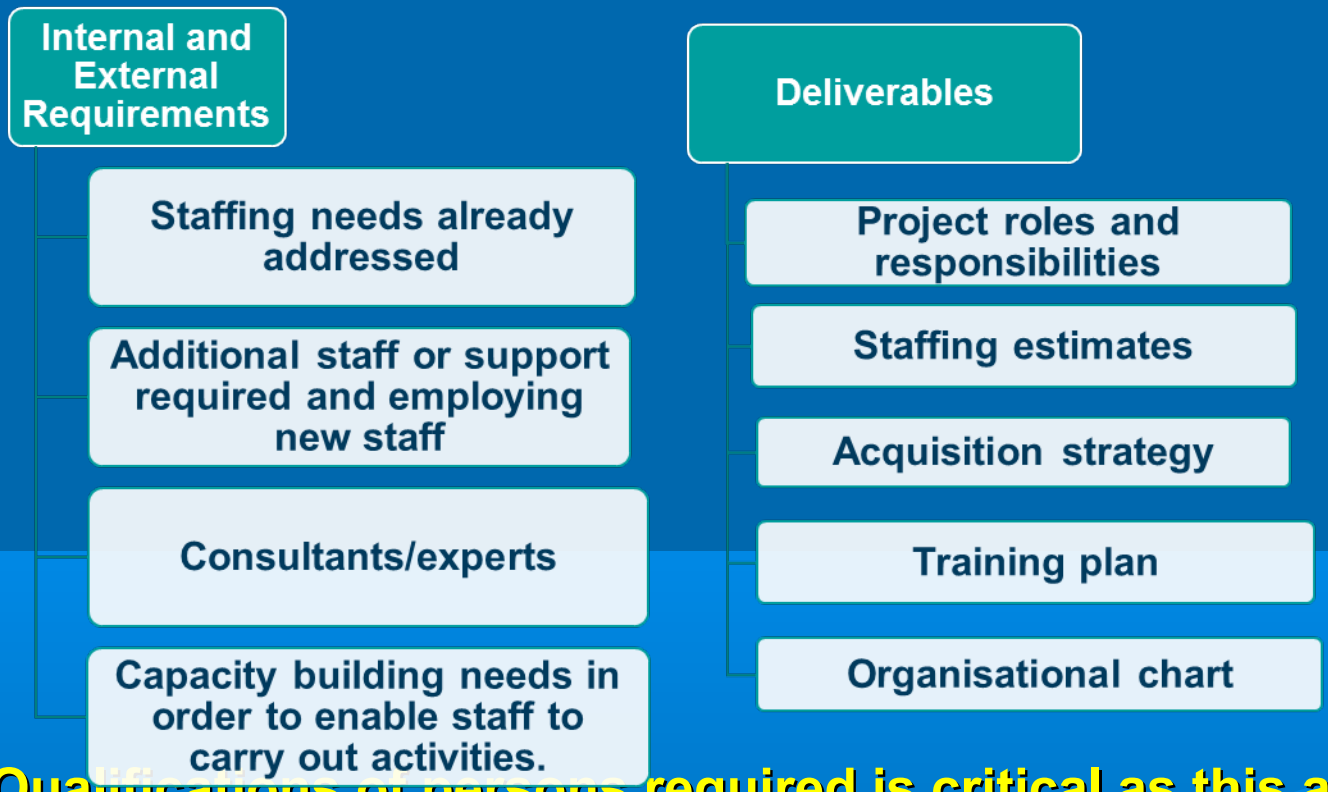
- **Human**
- **Material/equipment**
- **Financial**
- **Time**

What all this usually means is MONEY

- **From the project activities, you can know the kind of resources required**
- **In order to work out what the financial cost is, you have to look at all the inputs required**

Human resourcing plan

This is a summary of what you will need in human resource terms to carry out the planned activities. In this plan, you can include:



- **Qualifications of persons required is critical as this affects timeframe of activities (especially for consulting projects)**

Material resources

- **Internal management Systems (software and hardware)**
- **Project equipment**
- **Always consult an expert to be certain about all required equipment and when elaborating DAOs**

Financial resources and budgeting

- **Budgets translate plans to money**
- **Estimated and informed monetary guess of cost of the work**
- **Budgeting as a management tool tells how much each activity costs, monitor the income, expenditure and identify problems**
- **People involved in budgeting vary, but basically involve finance manager and project manager or director of department**
- **Important to consult experts, especially for big projects**

You need to create a Preliminary Project budget that outlines the Planned expenses and Revenues associated with the Project.

Estimating budgets and categories involved

- **Budgets are drawn from operational plans, action plans or business plans**
- **Do assessment of all resources needed as in action plan**
- **When planning make use of inputs like people, skills, information, equipment, etc.**
- **Categorization is important especially when working with donors**

Operational costs	Organisational costs	Staffing costs	Capital costs
• Direct costs of doing the work: hiring, printing, field work, materials, services	• Management, administration, governance. • It possible you may incur additional costs e.g. renting big office space	• Costs of the core staff involved in the project; • Such as salaries, types of benefits, • Can be charged periodically or based on activities	• Cost of large investments such as cars, computers, photocopy machines, etc. • Can still fall under operational or organizational costs.

Financial resources and Budgeting

Estimating operational costs:

Activity:			
	Unit cost	**Quantity**	**Total cost of item**
▪ Materials ▪ Equipment ▪ Services ▪ Transport	*The unit cost is the cost of a single item, or one unit.* *e.g. Cost per day, per kilometer, per person.*	*This is the number of units (how many) you will need for the activity. e.g. 200 training packs, 130 days of trainers' time.*	*Multiply the total number of units by the unit cost.*
Total cost for Activity			***The sum of all the individual costs***

Estimating organisational cost:

Once you have done your estimates here, you may decide to assign a percentage of the various items to specific departments or projects. This is acceptable practice.

	2003	**2004**	**2005**
Management: Salaries/benefits: Donor liaison: Governance liaison: Public relations: Fundraising: Human resourcing:			
Administration: Salaries/benefits: Equipment: Software: Stationery:			
Governance and organisational development: Board meetings: Organisational processes: Resource centre:			
Overheads: Office rental: Electricty and water: Insurance: Maintenance: Legal fees and audit fees:			
Annual totals:			
Total:			

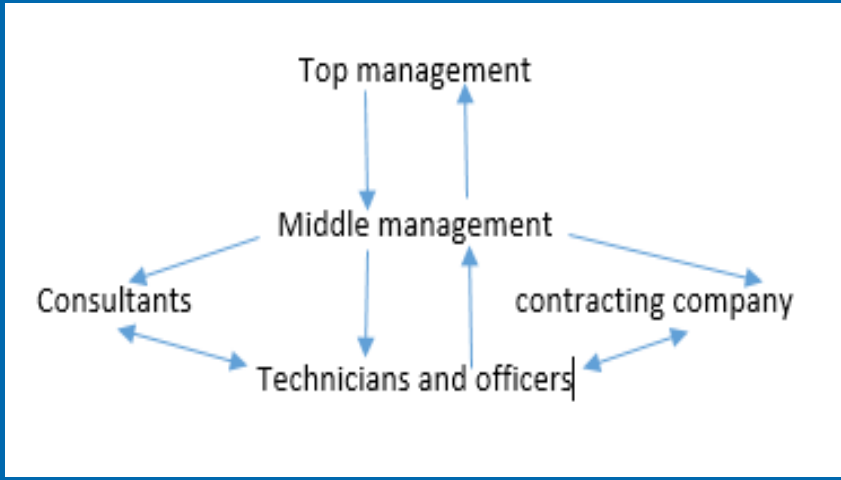
2.4 Resourcing plan

Resource	*Cost Estimate (FCFA)*	*milestones*	*Quality personnel required*	*Outputs*
Construction of 24 bore holes -	204 000 000 + Administrative costs	- Selection of contractor (2 months) - Construction works (8 months) -	- 1 program manager - 1 procurement officer - 1 rural engineer - 1 program officer - National Contracting company	- Construction company selected and contracts signed - 6 boreholes drilled
Rehabilitation of water infrastructure	38 000 000 + Administrative costs	- Selection of contractors (2 months) - Effective rehabilitation works	- 1 program manager - 1 procurement officer - 1 rural engineer - 1 program officer - National Contracting company	- Construction company selected and contracts signed - 6 boreholes fixed - Water systems extended to 2 quarters
Capacity building and creation of water management committees	32 000 000 + Administrative costs	- Council and community development staff trained (1 month) - WACs created - Technicians trained - Field trips organised -	- 1 senior capacity building officer - 1 working level wash officer - -	- Training certificates delivered - 24 WACs created - Reports of field trips -

2.5 DEVELOPING A COMMUNICATION PLAN

PURPOSE

Is to outline the communication procedures among Management, Project team members and the Customer.



2.6 DETERMINING PROJECT STANDARD AND PROCEDURES

Specify how various Project Deliverables are produced and tested by you and your Project team. (outputs and outcomes)

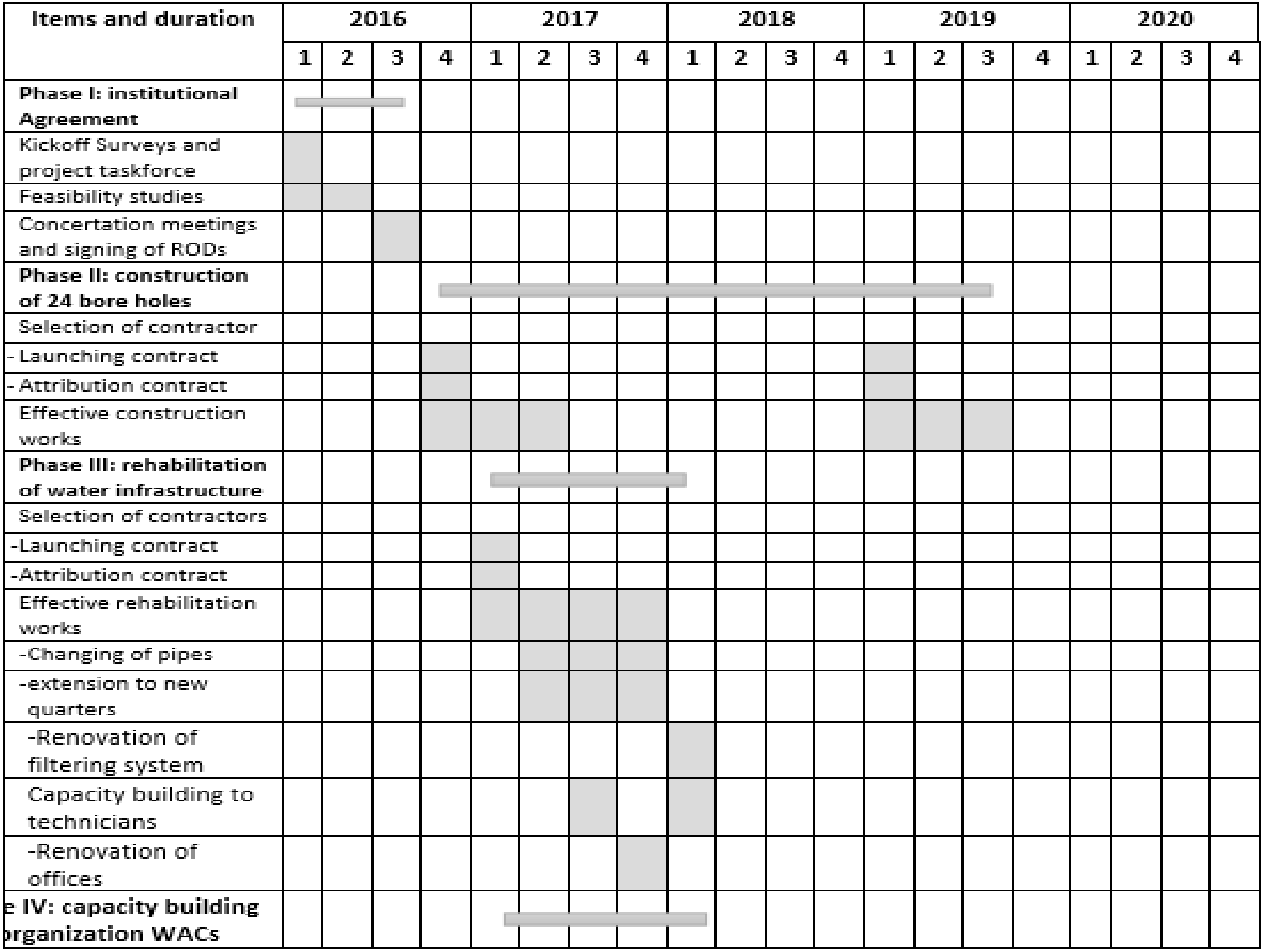
Setting Project Standards and Procedures for work acceptance is a way to assure the development of a high quality System.

2.7 DEVELOPUNG A PRELIMINARY SCHEDULE

- Using the information on Tasks and Resources availability to assign TIME ESTIMATES to each Activity in the WBS.
- TIME ESTIMATES will allows you to create Target Starting and Ending Dates for the Project.
- The Preliminary Schedule may be represented as a GANTT Chart or as a Network Diagram (ie. PERT/CPM Chart).

GANTT CHART

- A graphical representation of a Project that shows each task as a horizontal bar whose length is proportional to its time for completion.
- A GANTT Chart is a horizontal bar chart that illustrates a Project schedule.
- In the GANTT Chart Time is displayed on the horizontal axis and the Tasks/ Activities are arranged vertically from top to bottom, in order of their start dates.
- A detailed GANTT Chart for a large project might be quite complex and hard to understand. To simplify the chart Project manager can combine related activities into one Task.
- GANTT CHART do not show how tasks must be ordered (precedence) but simply show when a task should begin and should end


Items and duration
2016
2017
2018
2019
2020
1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4
Phase I: institutional Agreement
Kickoff Surveys and project taskforce
Feasibility studies
Concertation meetings and signing of RODs
Phase II: construction of 24 bore holes
Selection of contractor
- Launching contract
- Attribution contract
Effective construction works
Phase III: rehabilitation of water infrastructure
Selection of contractors
-Launching contract
-Attribution contract
Effective rehabilitation works
-Changing of pipes
-extension to new quarters
-Renovation of filtering system
Capacity building to technicians
-Renovation of offices
e IV: capacity building
rganization WACs

NETWORK DIAGRAM

- Is a graphical depiction of Project tasks and their inter-relationships.
- The distinguishing feature of a Network Diagram is that the ordering of Tasks is shown by connecting with its predecessor and successor tasks. tasks.
- Network Diagramming is a Critical Path Scheduling Technique used for controlling resources.
- CRITICAL PATH SCHEDULING

  A scheduling technique whose order and duration of a sequence of task activities directly affect the Completion Date of a Project

NETWORK DIAGRAM

You would use a Network Diagram when Project Tasks:-

- Are well defined and have clear beginning and end point
- Can be worked on independently of other tasks
- Are ordered
- Serve the purpose of project

PROGRAM EVALUATION REVIEW TECHNIQUE (PERT)

- One of the most difficult and most error prone activities when constructing a Project Schedule is the determination of the **TIME DURATION** for each task within a Work Breakdown Structure (WBS), specially when there is a high degree of complexity and uncertainty about a task.

- PERT is a technique used to calculate the Expected Time for a tasks.

- PERT is a technique that uses Optimistic time (O), Pessimistic time (P) and Realistic Time (R) estimates to calculate the EXPECTED TIME (ET) or a particular task.

3. EXECUTING THE PROJECT

The third Phase in Project Management Process in which the Plans created in the prior Project Phases are put to action.

If you develop a high quality Project Plan, it is much more likely that the Project will be successfully executed.

KEY ACTIVITIES OF PROJECT EXECUTION

1. **1. EXECUTING BASELINE PROJECT PLAN**
2. **MONITORING PROJECT PROGRESS AGAINST THE BASELINE PLAN**
3. **MONITORING CHANGES TO BASELINE PLAN**
4. **MAINTAINING THE PROJECT WORKBOOK**
5. **COMMUNOCATING THE PROJECT STATUS.**

4. CLOSING DOWN THE PROJECT

The final Phase of Project Management process which focuses on bringing a Project to an end.

Closedown is a very important activity since a Project is not complete until it is closed and it is at closedown that projects are deemed a success or failure.

Projects can conclude with a natural or unnatural termination.

Natural termination occurs when the requirements of the Project have been met and thus the Project completed and is a success.

An Unnatural termination occurs when the Project is stopped before natural completion.

4. CLOSING DOWN THE PROJECT

PROJECT CLOSEDOWN ACTIVITIES

1. **Closing Down the Project**
2. **Conducting Post-project Review**
3. **Closing the Customer Contract**

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THANK YOU