The Session 5

Logical Framework Analysis and Project Planning

5.0 The Logical Framework

The logical framework is an important technique used in project formulation. According to Wikipedia, it defined as a methodology that used for designing, monitoring and evaluation of international projects. It developed in 1969 by the USAID for guiding its projects implemented in developing countries, as a method of Practical Concepts guidance. Thus Logical Framework Approach (LFA) was designed to improve its project planning and evaluation system. Basically it concerns three aspects in project design.

1. Project planning is too vague without clearly defined objectives and indicators that could be used to objectively monitor and evaluate the success (or failure) of a project;
2. Management responsibilities and tasks were unclear.
3. Evaluation of project implementation was often an adversarial process, because there was no common agreement as to what the project was really trying to achieve.

The LFA has been adopted as a project planning and management tool by most multilateral and bilateral development agencies. The European Commission has required the use of LFA as part of its Project Cycle Management (PCM) system since 1993, and it provides a core set of tools with which to undertake assessments of project quality based upon the LFA (see separate document and for further details refer to *European Commission, Project Cycle Management Guidelines, Volume 1, 2004*).

5.1. Structure of Logical Framework Matrix (Log frame Matrix or LFM)

LFM is consisted of four-by-four project table. The rows represent goal, purposes, outcome and activities and the column represent Objectively Verifiable Indicators (OVIs, Means of Verification (MoV) and Assumptions Thus Log frame matrix comprises 16 "boxes" (see fig 5.1), but establishing a Log frame matrix doesn't mean to "**fill in the boxes" only. Behind every "box" there is careful analysis and logical reasoning that has to be pursued before filling in the boxes w**hich

is only the final activity, the product. If this process is not carried out during idea and project development, it applies to project development in general.

The log frame matrix as its principal outcome: flexibility in its use is essential as it based on the analysis of an existing situation, and situations or circumstances can change as the project develops. Those changes might have to be taken up by reviewing and adapting the project design – and the matrix consequently. A log frame matrix should reflect a project strategy derived from the careful analysis of an existing situation – not vice versa.

Fig. 5 .1: Logical framework Matrix

Narrative Summary	Verifiable Indicators (OVI)	Means of Verification (MOV)	Important Assumptions
GOAL			
PURPOSE			
OUTPUTS			
ACTIVITIES	Inputs		

Thus LFM is a "temporal logic model" that runs through the matrix that connected with hypothetical views as shown below.

- If these Activities are implemented, and these Assumptions hold, then these Outputs will be delivered.
- If these Outputs are delivered, and these Assumptions hold, then this Purpose will be achieved.

- If this Purpose is achieved, and these Assumptions hold, then this Goal will be achieved.

These are viewed as a hierarchy of hypotheses (https://en.wikipedia.org/wiki/Logical_framework, Down loaded 03.04.17)

Within the **vertical logic (Axis)** of the matrix (first column = project strategy) it can be identified what the project intends to achieve and how (clarifying the causal relationships between the different levels of objectives), specifying important underlying assumptions and risks (fourth column of the matrix).

Within the **horizontal logic (Axis) of** the matrix indicators to measure progress and impact are specified and the sources or means by which the indicators will be verified. The matrix serves as a summary of the key information on the project. It provides an easy overview that allows a quick assessment of the consistency and coherence of the project logic.

The main components of LFA is presented in figure 5.1. Meaning of components in the vertical axis describe as follows;

- The **GOAL** is a bottom line condition of well-being of individuals, families, or communities. It is usually described in terms of quality of life improvement towards which the country programme will contribute
- The **PURPOSE** is determined by asking the question "how will this goal be achieved"
- The **OUTPUTS** are the deliverables through which the purpose will be achieved.
- The **ACTIVITIES** are the main elements of component projects through which the outputs are achieved

Meaning of components in the vertical axis describe as follows;

Narrative Summary: is a summary statements of goal, purpose, outputs and activities

Verifiable Indicators: it defines main indicators that could describe by goal, purpose, outputs and activities

Means of Verification It describes type and source of data that describe by goal, purpose, outputs and activities

Important Assumptions: It is an assumptions about the possible situation that would predict under the scenarios i. e. optimistic, pessimistic and normal.

5 .2 Benefits associated to the application of the LFA

According Project Cycle Management manual adopted by the European Commission, benefits of Using LFA in project planning was recognized as improving the project design, fostering the project performance and facilitating project management (www.dfid.gov.uk/pubs/files/toolsfordevelopment.pdf, 2016):

It also shows that the LFA can help to achieve:

A structured project design process. LFA suggests a logical sequence, interlinking the individual steps in the design process.

Transparency. The reasons why a certain project is meant to be implemented are determine on what are the problems and whose problems are they? and the internal logic of project design that expected to achieve and how?.

Participation of the stakeholders involved in the project design and management,

A consistent project strategy. The LFA provides tools to clearly link causes and effects. It also takes into account risk as external factors that are crucial for the success of the project, but lie outside the control of the project.

Objectively verifiable indicators. Indicators describe objectives in measurable "empirically observable" terms and provide the basis for performance measurement and project monitoring and evaluation.

Flexibility in adapting to changing conditions (that are of relevance for the project). The LFA establishes a framework that makes the underlying rationales and assumptions transparent and helps to react to changes by, e.g., revising the design.

An Example

Goal

- Contribute to improved Eye Health

Purpose

- Contribute to increased utilization of Eye Health services and knowledge in x district

5.3.1 Outputs

1. Increased Access to Eye Health Services

2. Provision of cost-effective, comprehensive and high quality EH services

5.3.2 **Objectively Verifiable Indicators (Quantity & Quality)**

- **Indicator** -Increase CSR
- **Add Quality** -CS with IOL increased from 60% to 90%
- **Add Quality** -CS with SICS technique increased from 60% to 80%
- **Add time** -CSR increased from 4000 to 6000 by 2005
- **Add place** -in x region/district

5 .3.3 Means of Verifications

The specific sources from which the status of each of the indicators can be ascertained.

5.3.4 Assumptions and Risk

Assumptions and risks are external conditions that are outside the control of the programme. The achievement of aims depends on whether or not assumptions hold true and the risks do not materialize.

If cause and effect is the core concept of good programme design, necessary and sufficient conditions are the outcome**s**. The sufficient conditions between the levels in the hierarchy of aims are the Assumptions. This is the external logic of the programme**.**

When working on a programme, it assume about the degree of uncertainty between different levels of aims. The lower the uncertainty that certain assumptions will hold true, the stronger the programme design.

Log Frame Analysis reflects how important are the assumptions, how big the risks and should the program be redesign or abundant etc. Similarly, it helps to prepare contingency plans to face with real situations or possible events.

5.4 Preparation of project Document

Considering the conceptual base of project planning it is not an easy task to prepare a good plan document. Following are the main ingredients to be included in a project document irrespective of either public or private sector plans.

Vision – Expected Outcome

Goal- The end result of the project/program or policy/plan

Objectives- Intended actions to realize the vision and the mission. To be SMART

Strategy- The method and the Policy to be taken to achieve mission

Rationale – Justification of the plan and the activities

Outputs –intended product or activities

Activities – Actions to be taken to realize objectives (outputs)

Resources (Inputs)

Stakeholders- Beneficiaries, project staff, suppliers and

Time Horizon- Gannet chart

Budget

Assignment (2019)

Formulate a project proposal on any public or private project with reference in logical framework (matrixes) analysis

The Session 6

Project Management

6.1 What is Project Management?

Project management (PM) is " the application of knowledge, skills, tools and techniques to implement project in view of achieving stakeholders' needs and expectations from the project" (Project Management Body of Knowledge (PMBOK guide, 2000). According to Wikipedia, it has defined as the discipline **of initiating, planning, executing, controlling, and closing the work of a team to achieve specific goals and meet specific success criteria.** The idea of project management gives various meanings as it defined and practiced by various institutions and peoples.

Conceptual base of the Project management was discussed in the project cycle analysis and logical framework analysis. Thus, project management has applied various ways and means. It applies to public work as well as private projects, use for many different disciplines such as engineering, information technology, constructions, finance and sports and practice as the means of scoping project, targeting and dealing with stakeholders.

The system view of project management includes three parts.

1. System Philosophy: View things as system. Interacting components working within an environment to fulfill some purposes.

2. System Analysis; Use problem solving Approach

3. System Management; Address business, technological and organizational issues before making changes to systems.

6 .2 Viewpoints of Project Management

Management propositions and methodology of PM was evolved systematically over the past (Nicholas, 2006).

Classical Viewpoint: Basically it based on scientific and bureaucratic management principles and applied for all situations. It originated at the beginning of 20th century and established for formal principle for planning, organizing, leading and controlling.

Behavioral Viewpoint: Focused on human and social aspects of organizations. This method was applied since 1930s and it was greatly helpful to improve leadership, group dynamics and social environment

System Approach: It was applied during World War II and sought to simplify management through reviewing complexity and causal relationship of the situation

Contingency viewpoint: The present management system practiced by many organizations were developed by combining above three approaches and it is known as contingency viewpoint

The traditional approach

In the traditional phased approach, a sequence of steps to be completed. It includes five developmental components of a project as distinguished in project cycle. Thus, the management was based on the five development phases, as of an engineering project

1. Initiation 2. Planning and design
3. Execution and construction 4.monitoring and controlling systems
5. Completion and finish point

6.4 The Project Management system:

According to traditional forms of management there are three elements in project management (Nicholas, J. M. 2001);

Project Manager is the person whose single overriding responsibility is to plan, direct and integrate the work efforts of participants to achieve project goals.

The project team: Form a single cohesive team working toward a common goal.

The project management system: the project manager and project team must have available and utilize "project management system"

Project management system is composed of organization structure, information processing and practices and procedures that permit integration of the vertical and horizontal elements of project organizations (ibid).Vertical elements includes the breakdown of all tasks in the project and the horizontal elements includes the functional units and the departments involved in the project (see table 6.1) .Thus PMS use in structured and consolidated management functions such as planning, organizing, communicating and controlling as the means for (Ibid);

1. Identification of tasks
2. Identification of resource requirements and costs
3. Determines the priorities
4. Planning and updating schedules
5. Monitoring and controlling end-item quality and performance
6. Measuring project performance

Table 6.1: Project management system

tasks	functional units and the departments			
	Technical	Construction	Financial	logistic

According to Nicholas, J. M. (2001), the tasks of the PMS includes following steps.

1. Work Breakdown Structure and work package to define all work to be done

2. An organization structure to integrate people and functional areas with the WBS and responsibilities
3. Project schedule to provide a basis for work package resource allocation and work timing
4. Cost accounts that indicates the basis for project cost aggregation and control
5. Budget to define expected costs for each costs account and work package
6. Means for collecting and storing project management information and performing evaluation
7. Means for reporting information
8. Means for management direction and corrective action

If assumes that the essence of a project is converting resources into desired results, It means inputs (resources) are used for intended change (outcomes) through a process of input-output activity related with effects and impacts. Effects were defined as the short term outcomes derived from the project while the impact defined as the long term change in the welfare of individuals and the society.

Various project management systems followed for managing project activities. It includes, ISO 9000 standards for quality management systems (QMS), Organizational Project Management Maturity Model (OPM3) lean, and Process Safety Management System (PSMS).

6.3 The project management body of knowledge (PMBOK)

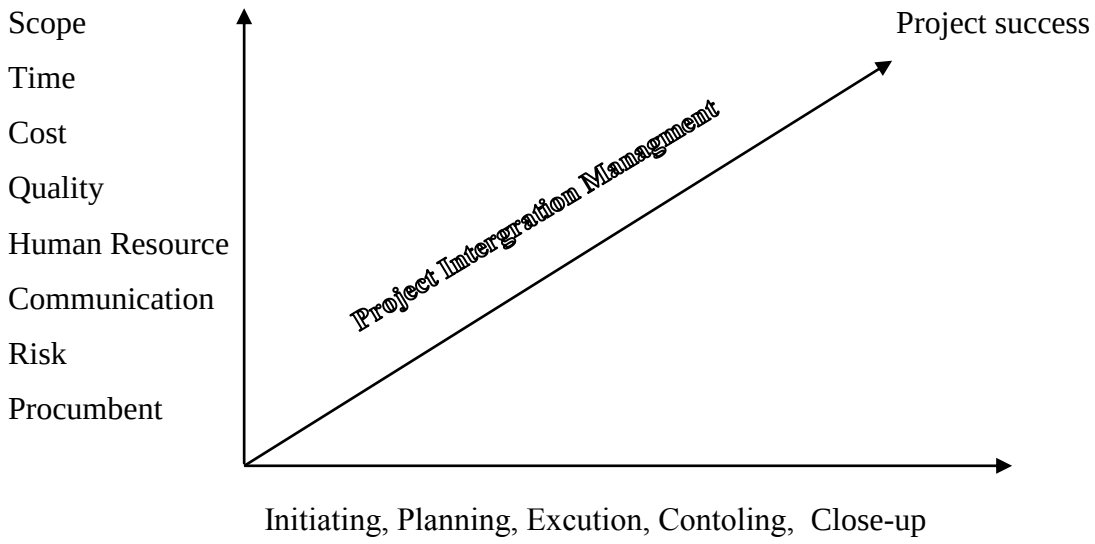
As a process project management defines structurally in terms of management process of the project. Thus project management body of knowledge (PMBOK) is a practice in project management discipline as means of collection of possess and knowledge areas. It includes nine knowledge areas and five proceeing levels as shown below.

1. Project integration Management; A process for ensuring that the project cycle is properly coordinated
2. Project Scope Management; A processes for ensuring that the project includes all the work required to complete successfully. -ව්‍යාපෘති විෂය පථය පිළිබඳ කලමනාකරණය
3. Project Time Management; A processes for ensuring that timely completion of the project

4. Project cost Management; A processes for ensuring that the project is progress within approved budget
5. Project Quality Management; A processes for ensuring that the project will satisfy the needs as anticipated
6. Project Human Resource Management; A processes required to ensure effective use of human capital.
7. Project Communication Management; A processes for ensuring that collection, dissemination, storage of project information
8. Project Risk Management; A processes concerned with identifying, analyzing and responding the project risk
9. Project Procumbent Management; A processes for acquiring goods and services for project completion.

These key components could be illustrated graphically as shown in figure 4.1. The vertical axis indicates the eight knowledge areas as mentioned above and the horizontal axis shows five project management processs in the cycle. It includes initiatin process, planning process, excution procees, controling process and closing process. The project integration path is determine at middle as a liner line upward to the right.

Fig. 6.1: Project integration Management



6.5 Planning and Management

As a complicated task, perfect project planning is essential for the better management. So it is important to understand the tools of project planning that used for technical contents of the project. Tools are consisted of following methods.

1. Work Breakdown Structure and work packages

2. Responsibility Matrix

3. Events and Milestones

4. Gantt Charts

6.5.1 Work Breakdown Structure

Projects are consisted of numerous smaller interrelated tasks and work elements. Dividing of overall project task into sub elements is referred as Work Breakdown Structure (WBS). As shown in the following figure 3.1, a typical WBS is consisted of five levels:

Fig 6.1 Work Breakdown Structure

Level	Description
1	Project- Total project
2	Category – Breakdown into major categories of work
3	Subcategory – Further breakdown according to total project task
4	Sub – subcategory- Same
5	Work Package – should include jobs of about equal magnitude of effort In terms of resource requirements, time and small cost

Quoted from Nicholas, J. M. (2001)

6.5.2 Responsibility Matrix

The intersection of the WBS and the organizational structure is represented by a responsibility chart that called as responsibility matrix. The responsibility matrix shown in table 5.2 depicts the organizational responsibilities among all work packages and responsible persons and the agency involved in a proposed housing project. Responsibilities could defined as primary responsibility, secondary responsibility and required conditions.

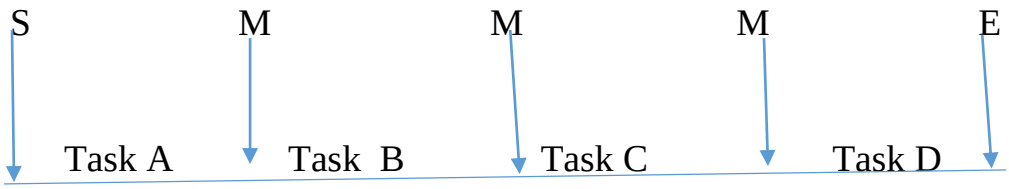
Table: 6.2: A simple Example for Responsibility Matrix – Housing Project

Project task/ Activity	Responsible Person and Department
Site Selection	Project Engineer/ Construction Bureau
Feasibility/ Building design	Engineer/Economist/ Construction Bureau
Foundation	Technical Officer & work Team/ Cons. Bureau
Construction	Work Team/ Construction Bureau
Finishing	Work Team/ Construction Bureau
Hand over	Project manager / Construction Bureau

6.5.3 Events and Miles Tones

If we assumed that a project is a roadmap that indicates the project task to be delivered at the end of the project under given resources and time, project should clearly indicate the events and tasks to be performed to reach project outcome. Project start and end would be the main events that called as interface events. it has a logical relationship between various events. Milestone events signifies the major occurrence such as completion of main tasks or the stages (Fig 5.2).

Fig 6.2: Events and Milestone



6.5.4 Gantt Charts

This system was introduced by Henry L Gantt during World War 1 as a method of monitoring US army projects and activities. According to Chart it determines time is the most important factor of performing a sequence of task involved with events and activities. Thus the chart is used for various projects to indicate the states of each elements/activity with time. It uses for planning projects of all sizes and in a way of showing what work is scheduled to be done on a specific time (Fig 5.2).

Table: 6.3: An Example for Gantt Chart: Housing Project

Task	January 2018				Febuary 2018				March 2018					April 2018				May 2018	
	6	13	20	27	3	10	17	24	3	10	17	24	31	7	14	21	28	5	12
Site Selection	———	———	———	———	———														
Feasibility & Design					———	———	- -	- -	- -	- -									
Foundation											--	--							
Construction							———	———	———	———									
Finishing							———	———	———	———		———	———	———	———				
Hand over												———	———	———	———	———	———	———	———

_____ Critical Task

---------- Non Critical Task