Chapter Two: Project Planning

Chapter outlines
- *Logframe Approach(LFA)*
- *Work Breakdown Structure*
- *Network Analysis*

Project Panning

❖ *Failing to Plan is Planning to Fail!*

❖ *If you don't know where you are going, any road will take you there!*

What is a project planning?

- Project planning defines the project activities and end products that will be performed and describes how the activities will be accomplished.

- The purpose of project planning is to define each major tasks, estimate the time and resources required, and provide a framework for management review and control.

What is a project plan?

- **A project plan** is a formal, approved document that is used to manage and control the project.

- The project plan forms the basis for all management efforts associated with the project.

- It is a document that is also expected to change over time.

What is a project plan?

- Project planning must be *systematic, flexible* enough to handle unique activities, *disciplined through reviews and controls,* and capable of accepting multifunctional inputs.

- Successful project managers realize that project planning is an iterative process and must be performed throughout the life of the project.

Four Basic Reasons for Project Planning

- To eliminate or reduce uncertainty

- To improve efficiency of the operation

- To obtain a better understanding of the objectives

- To provide a basis for monitoring and controlling work

Project Planning Using Logical Frame Work Approach (Logframe)

What is Logical framework approach (LFA)?

- LFA is a systematic planning procedure for complete project cycle management

- It is a problem solving approach which takes into account the views of all stakeholders

- It also agrees on the criteria for project success and lists the major assumptions

What is a logical framework ?

The Logical Framework Matrix provides a summary of :

- **Why** a project is carried out
- **What** the project is expected to achieve
- **How** the project is going to achieve it
- **Which** external factors are crucial for its success
- **Where** to find the information required to assess the success of the project
- **Which** means are required
- **How much** the project will cost

Organisations using the logframe

- USAID, USA

- GTZ, Germany
- DfID, Great-Britain
- NORAD, Norway
- DANIDA, Denmark
- AUSAID, Australia
- Intercooperation, Switzerland
- Ministry of Foreign Affairs, France
- DGCD, Belgium
- European Commission

- DGCS - Min. of For. Aff., Italy
- ICAX - Min. of Industry, Spain
- SIDA, Sweden
- UNIDO, Vienna
- FINNIDA - Min. of For. Aff., Finland
- HELLASCO, Greece
- Int. Federation of Red Cross
- UNDP
- FAO

Advantages of the logical framework

- Problems are analysed systematically
- The objectives are clearly formulated, logical and measurable....Hence.... Logframe
- The risks and conditions for success of a project are taken into account
- There is an objective basis for monitoring and evaluation
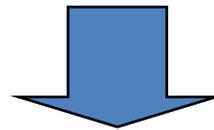
Your project proposal will be coherent

The logical framework approach

Analysis phase ➤ **Planning phase** ➤
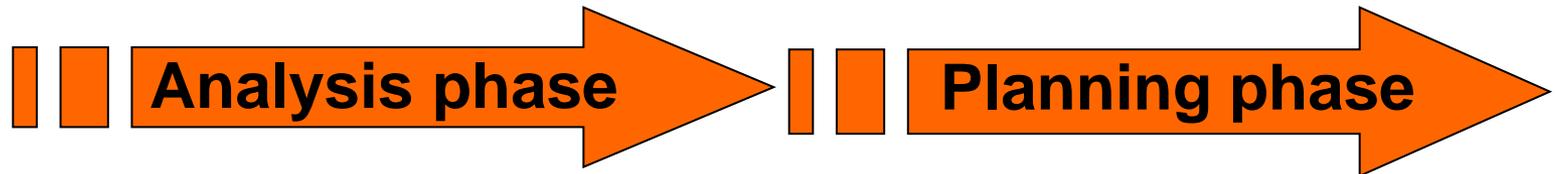
1. **Problem analysis**: identifying stakeholders, their key problems, constraints and opportunities, determining cause and effect relationships.

2. **Analysis of objectives**: developing objectives from the identified problems, identifying the relationships between the means and the ends.

3. **Analysis of the strategy**: identifying the different strategies to achieve objectives, determining the major objectives (overall objectives and project purpose or specific objective).

4. **Logframe**: defining the project structure, testing its internal logic and formulating objectives in measurable terms, determining means and cost.

5. **Activity planning**: determining the sequence and the relation between the activities, estimating their duration , setting the main stages in the process, assigning responsibility.

6. **Resources planning**: from the activity schedule, developing the input schedule and the budget.

1. Problem analysis

1. Identify the major problem faced by the beneficiaries

2. Develop a problem tree

3. Identify the stakeholders affected in the proposed project

1. Problem analysis

Problem tree

EFFECTS

```
          ┌──────────────────────────────────┐
          │ Vegitable production is insufficient │
          │ for the population of Choke water   │
          │ shed                                 │
          └──────────────────────────────────┘
                 │                        │
      ┌──────────────────────┐   ┌──────────────────────────────┐
      │ The irrigation system │   │ Agricultural practices are     │
      │ is faulty             │   │ unsuitable                      │
      └──────────────────────┘   └──────────────────────────────┘
          │          │                │                  │
  ┌─────────────┐ ┌─────────────┐ ┌──────────────┐ ┌──────────────┐
  │ The system  │ │ Some        │ │ Support      │ │ The farmers  │
  │ receives    │ │ irrigation  │ │ services for │ │ have no      │
  │ no          │ │ structures  │ │ farmers are  │ │ investment   │
  │ maintenance │ │ have been   │ │ not          │ │ capacity     │
  │             │ │ destroyed   │ │ available in │ │              │
  │             │ │             │ │ the area     │ │              │
  └─────────────┘ └─────────────┘ └──────────────┘ └──────────────┘
```

CAUSES
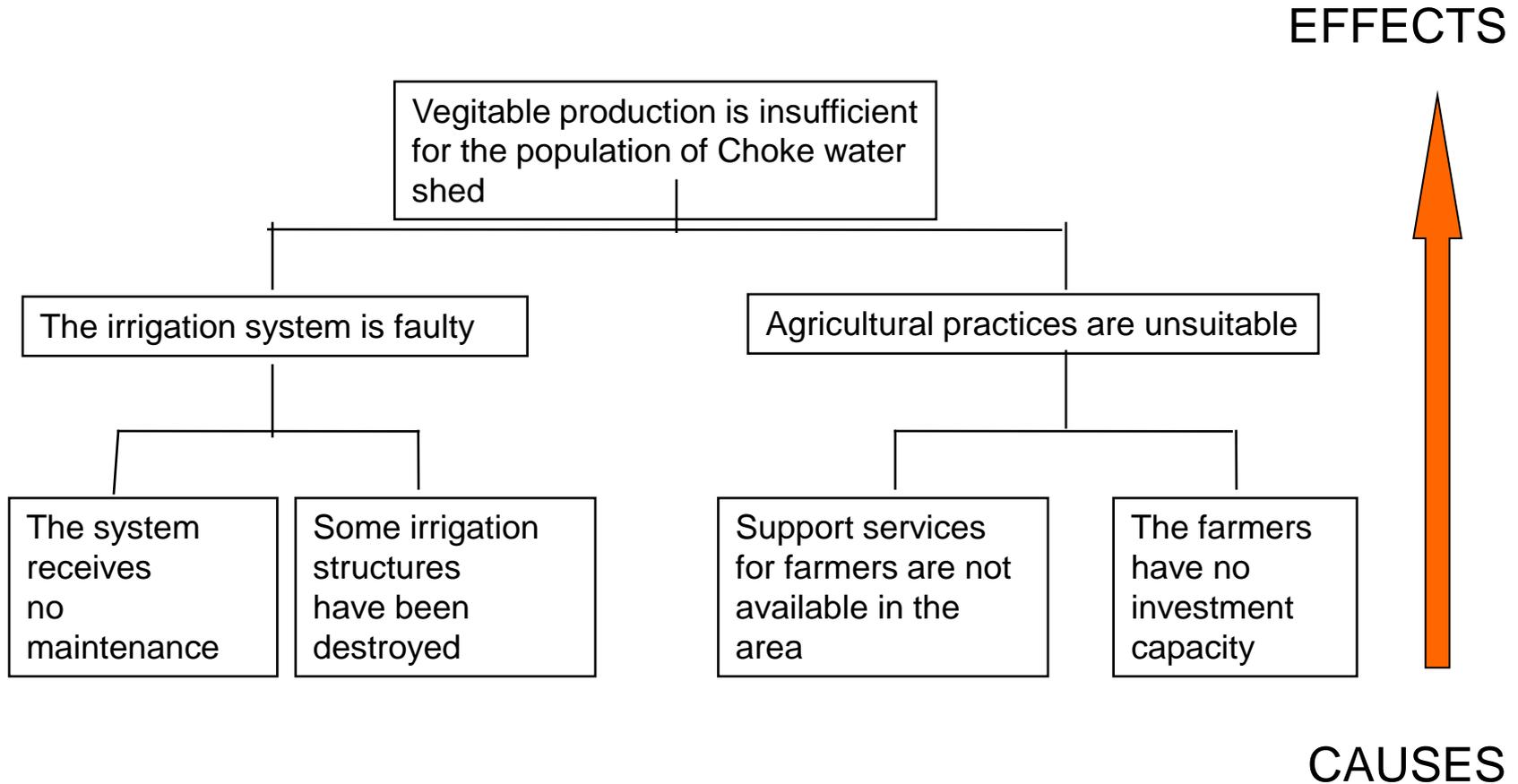
1. Problem analysis

Identifying stakeholders
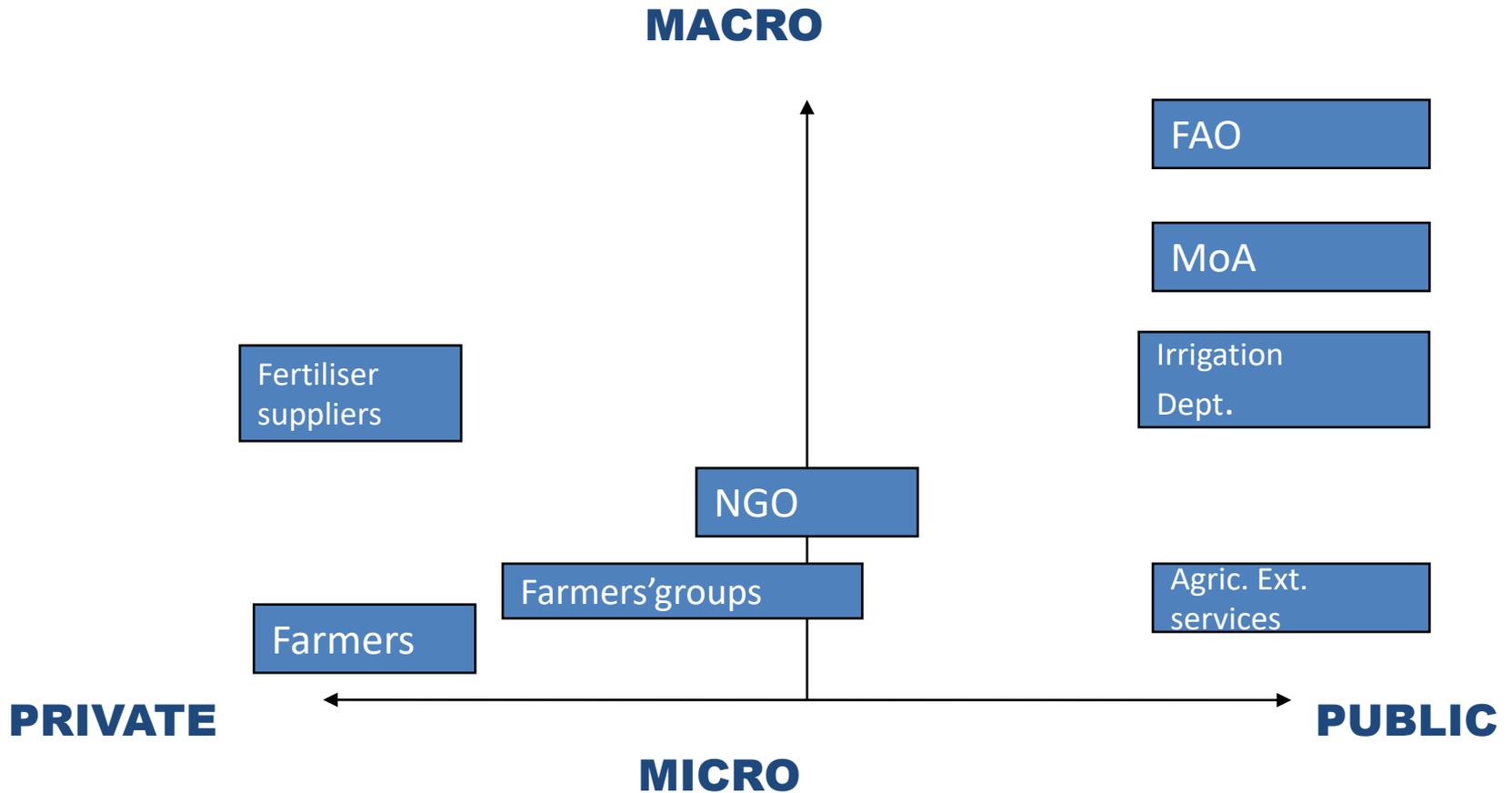
2. Analysis of objectives

Transforming Problems into Objectives

Problems → *Objectives*

Problems	Objectives
Vegetable production is insufficient for the population of Choke water shed	Vegetable production is sufficient for the population of Choke water shed
The irrigation system is faulty	Agricultural practices are unsuitable	The irrigation system is working	Agricultural practices are appropriate
The system receives no maintenance	Support services for farmers are not available	The system receives proper maintenance	Support services for farmers are available
Some irrigation structures have been destroyed	Farmers do not have investment capacity	Damaged irrigation structures are repaired	Farmers have the resources to invest

2. Analysis of objectives

Objectives' tree

ENDS

```
          ┌─────────────────────────────────┐
          │ Vegetable production is sufficient │
          │ for the population of Choke        │
          └─────────────────────────────────┘
              │
      ┌───────┴──────────────────────────────┐
┌──────────────────────────────┐    ┌──────────────────────────────────┐
│ The irrigation system is working │  │ Agricultural practices are appropriate │
└──────────────────────────────┘    └──────────────────────────────────┘
      │                                    │
  ┌───┴────┐                          ┌────┴─────┐
┌──────────┐ ┌──────────┐        ┌──────────────┐ ┌──────────────┐
│ The system│ │ Damaged  │        │ Support services │ │ Farmers have the │
│ receives  │ │ irrigation│        │ for farmers      │ │ resources to     │
│ proper    │ │ structures│        │ are available    │ │ invest           │
│ maintenance│ │ are repaired│      └──────────────┘ └──────────────┘
└──────────┘ └──────────┘
```

MEANS
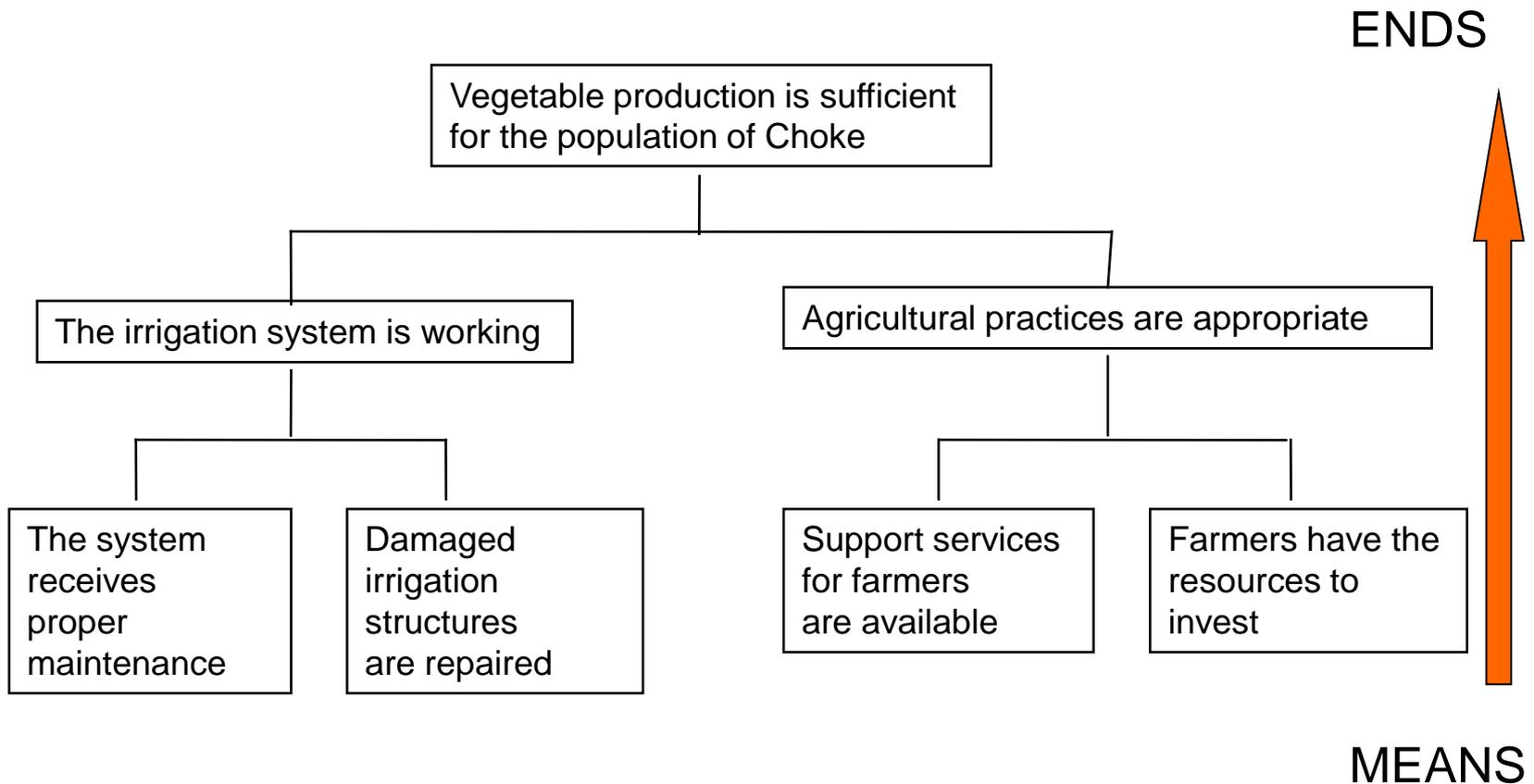
3. Analysis of alternatives

Possible criteria to choose the intervention logic of your project among different project alternatives:

- Available resources (especially HR)
- Probability of achieving the project purpose and its results
- Cost
- Timeframe
- Risks

3. Analysis of strategy

OVERALL OBJECTIVE

Vegetable production is sufficient for the population of Choke water shed

SPECIFIC OBJECTIVE (or project purpose)

The irrigation system is working

Agricultural practices are appropriate

EXPECTED RESULTS

The system receives proper maintenance

Damaged irrigation structures are repaired

Support services for farmers are available

Farmers have the resources to invest

CHOSEN STRATEGY

4. The log-frame

	Intervention Logic	Objectively Verifiable Indicators	Sources of Verification	Assumptions
Overall Objectives				
Project Purpose				
Results				
Activities		Means	Cost	
				Pre-conditions

4. The log-frame

Levels of objectives
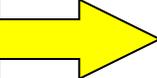
Overall Objective(s) → The broader **impact(s)** to which your project will contribute to, but will not enable to reach entirely
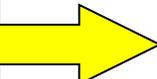
Project Purpose → The **outcome** of your project, what should be achieved at the enf of the project.
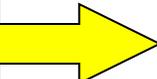
Expected Results → Specific **outputs** which will contribute to the realisation of your project purpose
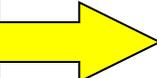
Activities → Concrete activities that will be undertaken during the project

4. The log-frame

- **Define <u>objectively verifiable indicators (OVI):</u>**

  - !!! Do not make the confusion between « *criteria* » and « *indicators* » !!!

    - A criteria is for instance: « number of… », « increase in… »
    - Whereas an indicator is « 150 persons per month », « 34% of increase in … »

4. The log-frame

Example of a good indicator

Objective: The irrigation system is working

The indicator should be « **SMART** »:

• **Specific** = The irrigation pumps are functioning properly in the project area

• **Measurable** = 50 of the irrigation pumps are functioning properly in the project area

• **Acceptable** = Is the indicator accepted by all the partners involved in the implementation of the project ?

• **Relevant** = Are the irrigation pumps the main problem?

• **Time-bound** = 100% of the irrigation pumps are functioning properly in the project area at the end of the project

4. The log-frame

Selection of sources of verification

Cost (vertical axis)

Complexity (horizontal axis)

Administrative / financial report

Management report

Monitoring data

Adapted monitoring statistics

Interviews of beneficiaries

Specialised surveys
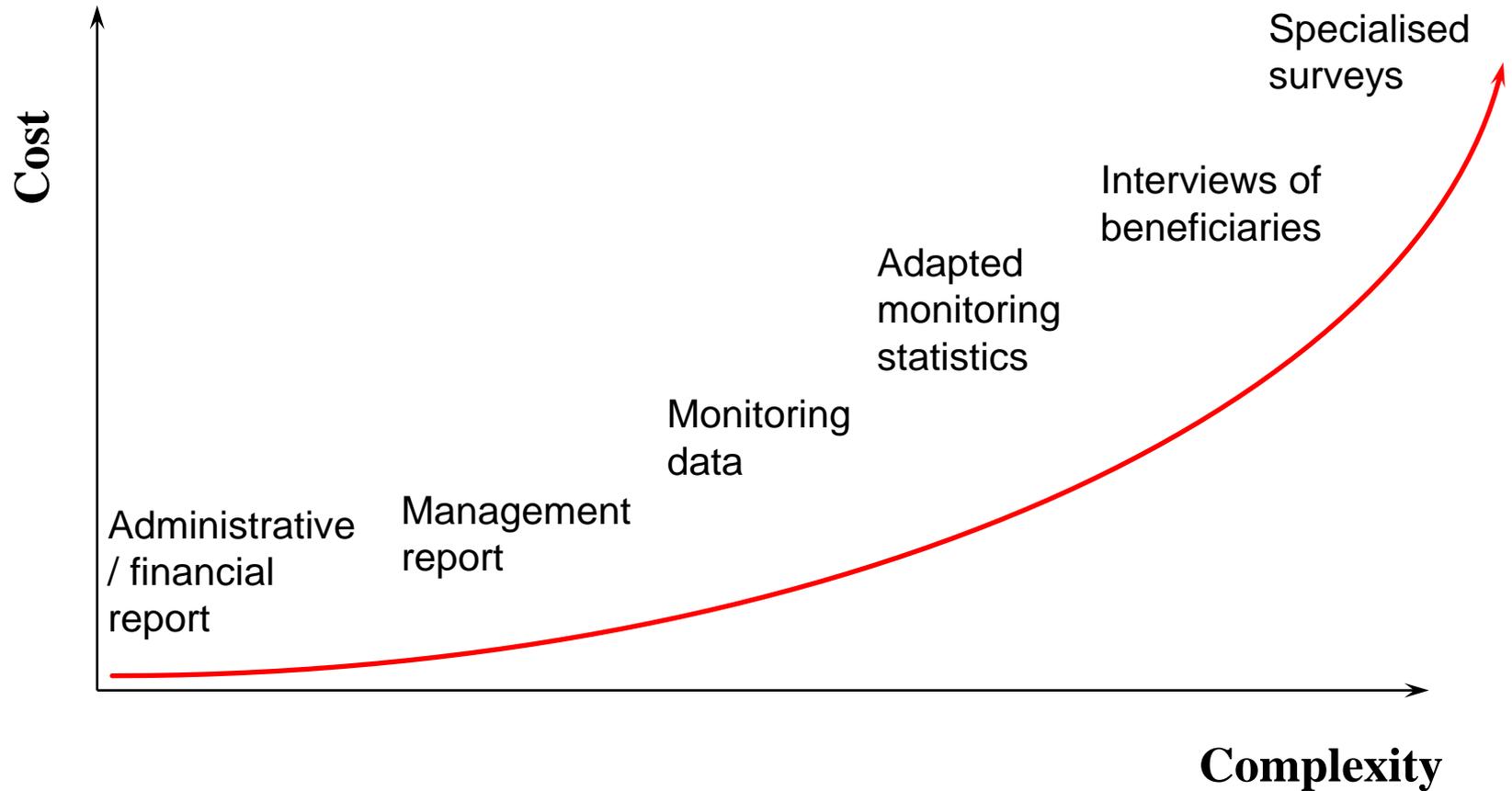
4. The log-frame

- Consider the various **<u>risks and assumptions</u>** on your project:

   = external factors that may affect the projects'
      implementation and long-term sustainability

   = synergetic activities made by other actors

- Do not define assumptions that are endogenous to the project and the scheduled activities !!

- Only mention relevant hypothesis…

4. The log-frame

Risks/Assumptions

Is the RISK important to your project?

Yes

No

What is its probability?

Ignore

Unlikely

Fairly Unlikely

Almost certain

Formulate an assumption

Can the project strategy be modified to eliminate the risk?

No

Yes

STOP the project

Modify strategy, add activities
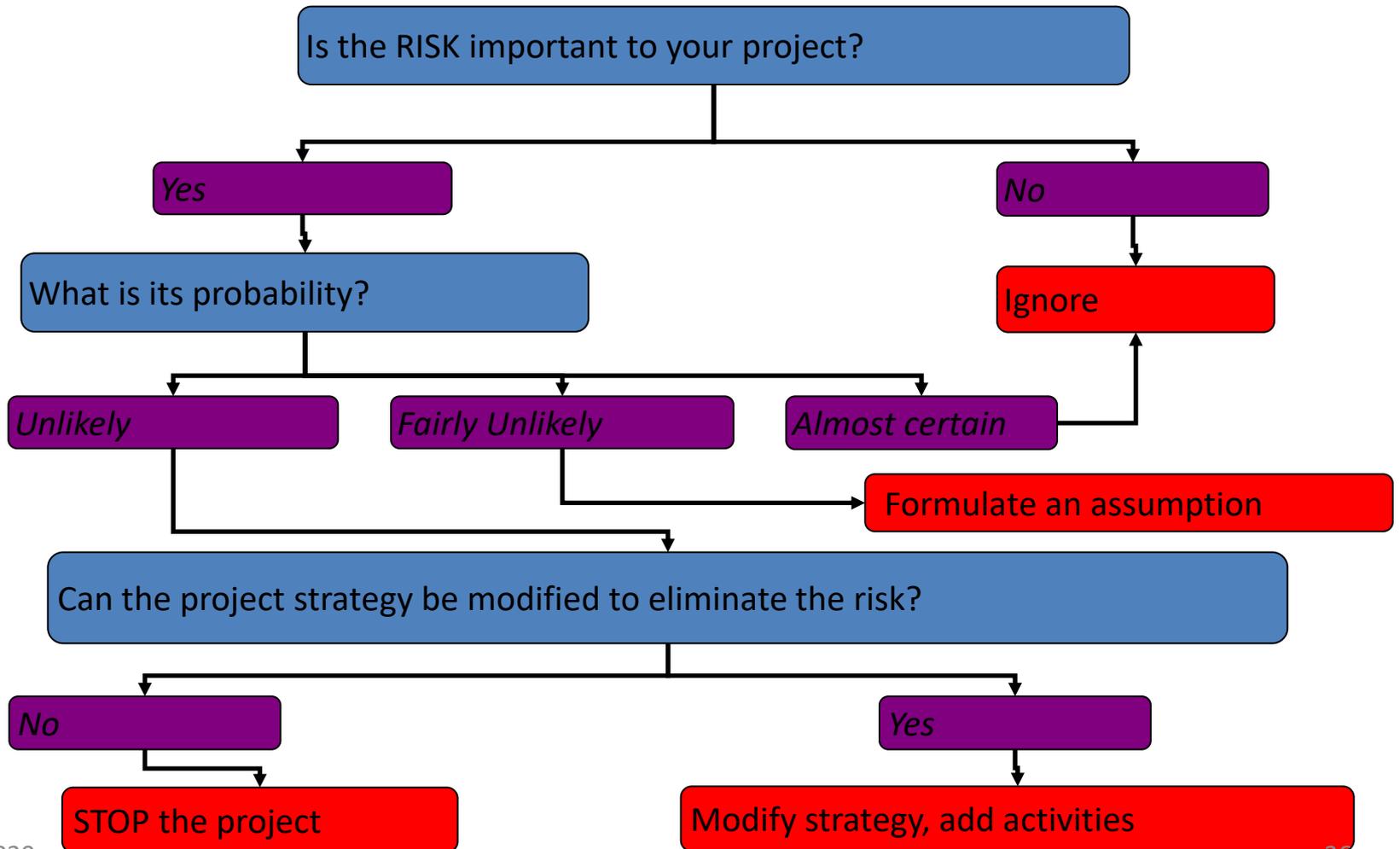
4. The log-frame

Intervention logic of project + Assumptions

If the activities are carried out,
and if assumptions are valid, **then** ...
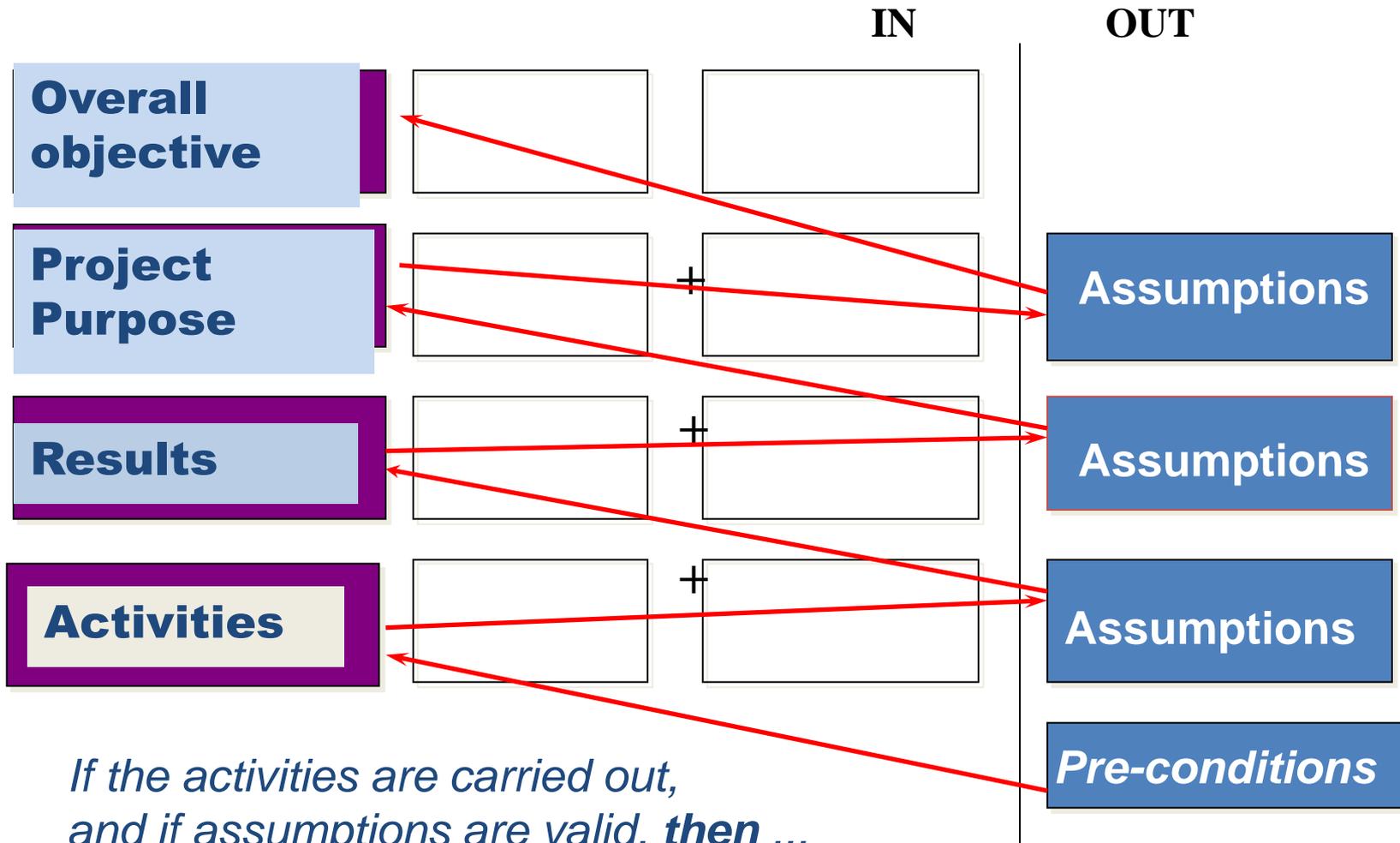
5. Activity-planning

Logical framework

Activities			

Plan of action

Year	Year 1							By whom?
Month	1	2	3	4	5	6	etc.	
Activity 1	▓	▓						
Activity 2		▓						
Activity 3		▓	▓	▓				
Activity 4			▓	▓	▓	▓	▓	

5. Resource-planning

Plan of action

Year	Year 1						By whom?
Month	1	2	3	4	5	6 etc.	
Activity 1	▨	▨					
Activity 2		▨					
Activity 3		▨	▨	▨			
Activity 4			▨	▨	▨	▨ ▨	

Means/Budget
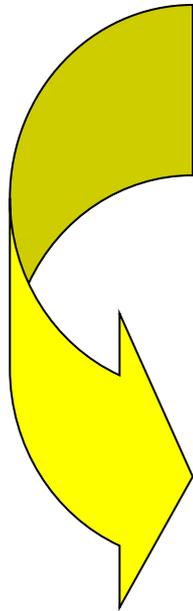
Means:	Budget
Human resources	
Material/ Equipment	
Travel etc.	

A Standard Logical Framework Format:

Goal	Objectives	Activities or Inputs	Outputs	Outcomes	Impact	Indicators	Means of verification	Risks & Assumptions	Costs

LOGICAL FRAMEWORK MATRIX

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

KEY FEATURES OF LOGFRAME MATRIX

- The LOGFRAME MATRIX is a participatory Planning, Monitoring & Evaluation tool whose power depends on the degree to which it incorporates the full range of views of intended beneficiaries and others who have a stake in the programme design.

- It is a tool for summarizing the key features of a programme and is best used to help programme designers and stakeholders

Goal	A project goal is a very general, high-level and long-term objective of the project. It is different from project objectives because the latter are very specific and have to be addressed alone by the project. But the goal cannot be achieved by the project on its own since there will be other forces like the Government, other agencies etc also working to achieve it. It is a major benchmark to compare work between different projects.
Objectives	Objectives are the specific objectives the project works to achieve within the stipulated time.
Activities or Inputs	Activities or inputs are actions undertaken by the project or the organization to achieve the set objectives
Outputs	Outputs are immediate results that we achieve soon after the completion the project or any specific project activity.
Outcomes	The outcomes are results that have been or that are to be achieved after a period of time, but not immediate.
Impact	The impact is the longer-term result that has happened because of the activities undertaken in the project.
Indicators	Indicators are a measure of the result. They give a sense of what has been or what is to be achieved.
Means of Verification	Data or information based on which the indicators will be measured or monitored
Risks & Assumptions	External factors affecting the progress of the project
Costs	Budgetary explanations

Group Work

- *Prepare the logical frame work matrix for your project based on logframe matrix*

A Standard Logical Framework Format:

Goal	Objectives	Activities or Inputs	Outputs	Outcomes	Impact	Indicators	Means of verification	Risks & Assumptions	Costs

The Logical Framework Approach

- LFA is a systematic method of developing a project concept and selecting a project strategy.

- It provides a set of tools used to support project planning and management, and a set of interlocking concepts which are used as part of an iterative process to aid structured and systematic analysis of a project idea.

Logical Framework Analysis (LFA)

- **Logical Framework Analysis (LFA)** is a highly effective strategic planning and project management methodology with wide application.

- It comprises an integrated package of tools for analyzing and solving planning problems and for designing and managing their solutions within a **stakeholder participatory framework**.

Logical Framework Analysis (LFA)

- It is an analytical, presentational, and management approach useful to:
  - Analyze the existing situation during project preparation;
  - Establish a logical hierarchy of means by which objectives will be reached;
  - Identify potential risks;
  - Establish how outputs and outcomes are best monitored and evaluated;
  - Present a summary of the project in a standard format; and
  - Monitor and review projects during implementation.

DEVELOPING THE LOG FRAME MATRIX

Stage 1 – Top down (Project Structure)

- Using participatory approaches involving stakeholders, start at the top developing the Goal, and then consider Purpose, Outputs, Activities, Inputs.

Stage 2 – Work across (Indicators and Means of verification).

- Work across the log frame matrix, identifying the indicators and the means of verification. For each step of the project structure, consider:
  - What indicators can be used to measure achievement against?
  - What information will be needed and how it might be gathered?
  - What problems/barriers might arise and how can their impact be minimized?

Stage 3 – Bottom up (Checking logic and assumptions)

- Start from the bottom of the log frame and consider whether, if the assumptions at one level hold, you can logically move up to the next level.

DEVELOPING THE LOG FRAME MATRIX

- **Check:** If you carry out the activities and the assumptions at that level are not present then will the planned outputs be delivered?
- If not, adjust the planned activities.
- Then move on and repeat at the next level.

Top Tips

- Start working on your log frame when you begin planning the project
- Include all stakeholders in the development of the LFA.
- Develop a problem tree, then turn the problems into objectives.
- Find a mentor with experience of writing log frames who can offer advice and assistance
- Keep reflecting and revising until you are satisfied that the project is workable and the log frame is clearly logical.
- Use the log frame as the basis of funding applications and then throughout the project life cycle.

Strength of LFA

- Decision based on more relevant information
- Guides systematic and logical analysis
- Highlights linkages between internal elements and external elements
- Better basis for systematic monitoring and analysis of results
- Common understanding and better communication
- Standardized procedures for collecting and assessing information
- Continuity of approach
- Enhanced strategic focus on results instead of activities
- Improved transparency, Improved accountability
- No choice, it is an industry standard
- To get more funds!!

Limitation of Logical Framework Analysis (LFA)

- It is not a substitute for other technical, economic, social and environmental analyses.
- It cannot replace the use of professionally qualified and experienced staff.
- Rigidity, but regular reviews allow adjustment
- General analytical tool: neutral on some questions
- Is only one of several tools during the whole phase; cost-benefit, impact analysis, etc.
- Requires systematic training of all parties involved and methodological follow up

Work breakdown structure (WBS)

Definitions

❑ **Work Breakdown Structure (WBS):** The level at which a piece of work within a project is broken down for programming, cost planning, monitoring and control purposes, to be performed by a specific person.

❑ **Work Package:** A group of related tasks that are defined at the same level within a work breakdown structure.

Work Breakdown Structure

- A hierarchical breakdown of the work necessary to complete the project

- Presented in an easy to navigate form

- A Task Directory may be included here

Example of a WBS
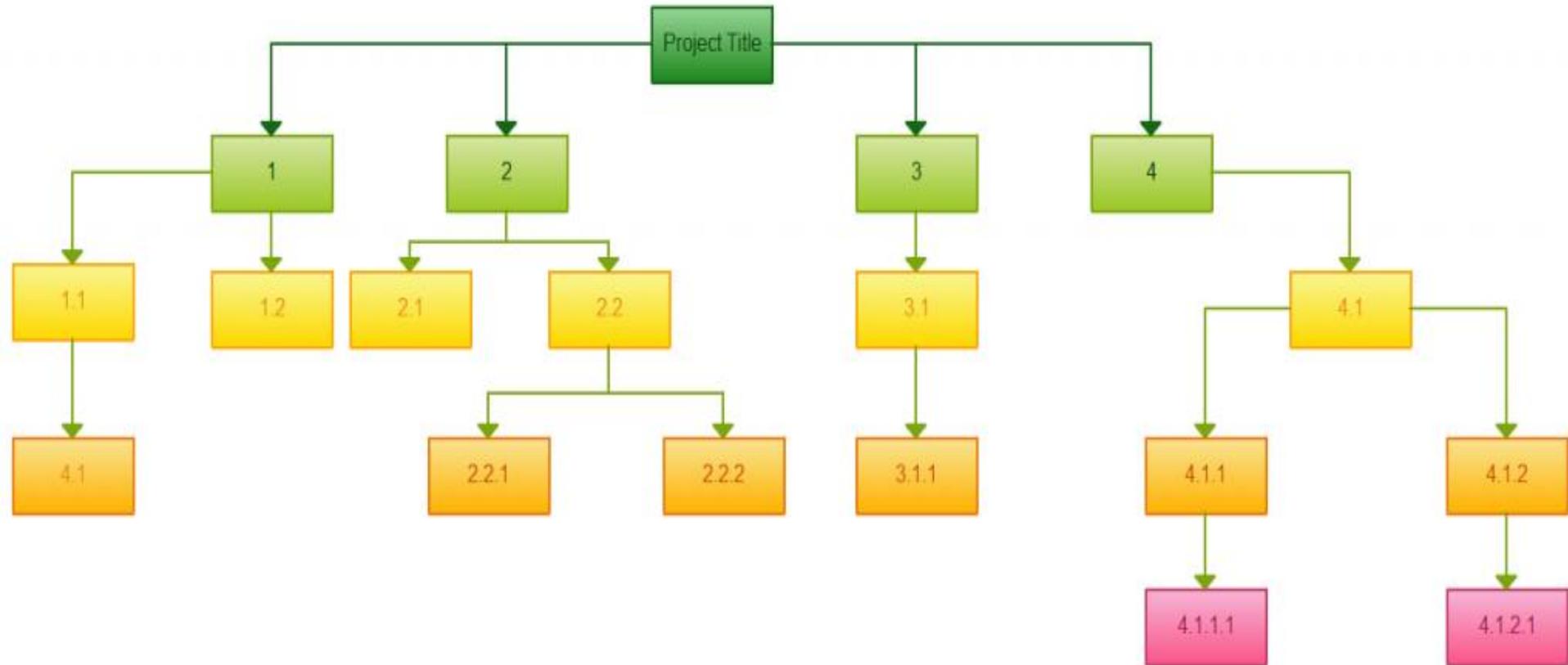
Assembly chart
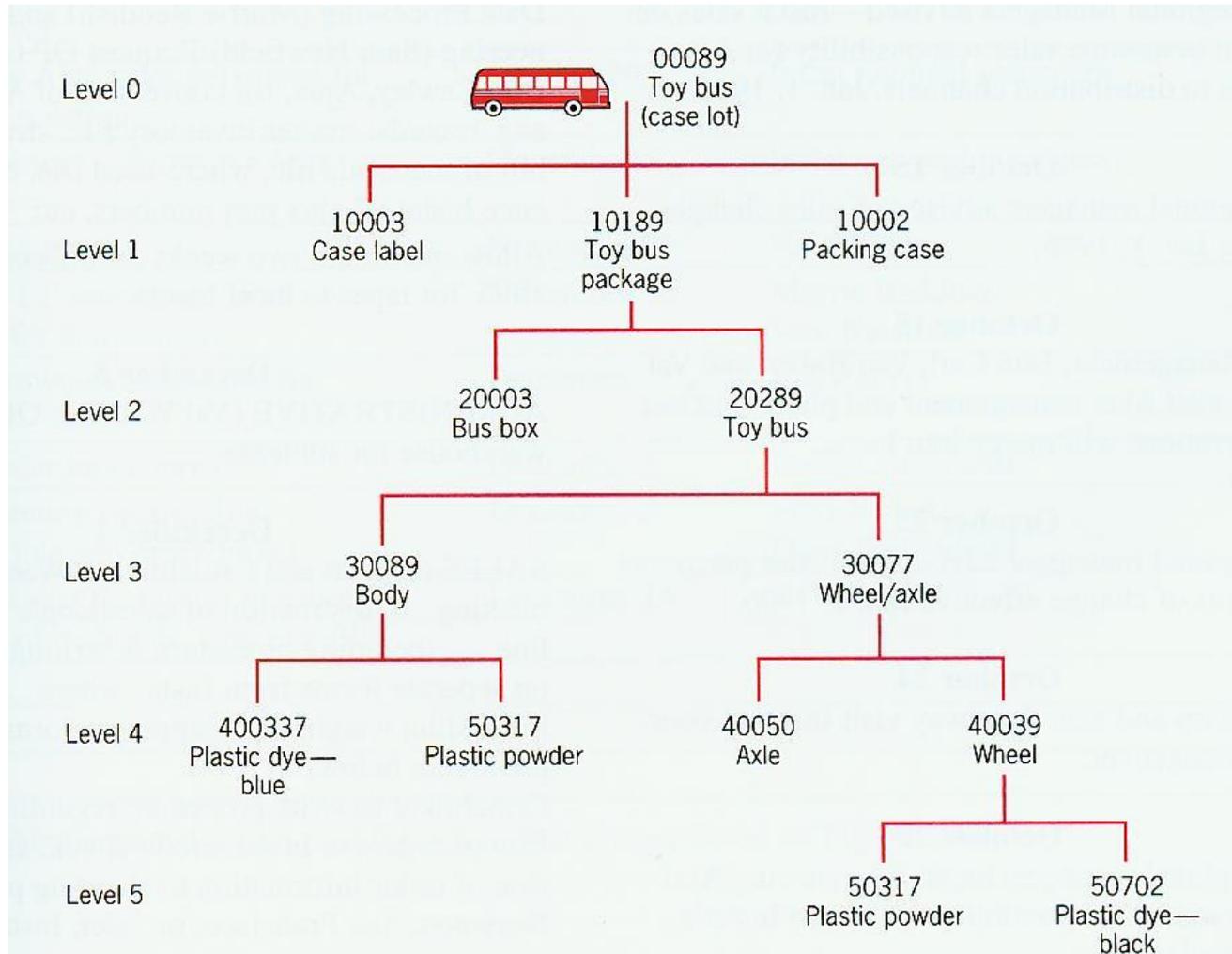
Gozinto chart for a toy bus. *Source:* Harris and Gonzalez 1981.

Possible levels in a WBS

<u>Project</u>

   Sub-projects

     <u>Deliverables</u>

       Sub-deliverables

         Work packages

           <u>Work units</u>

Another WBS example
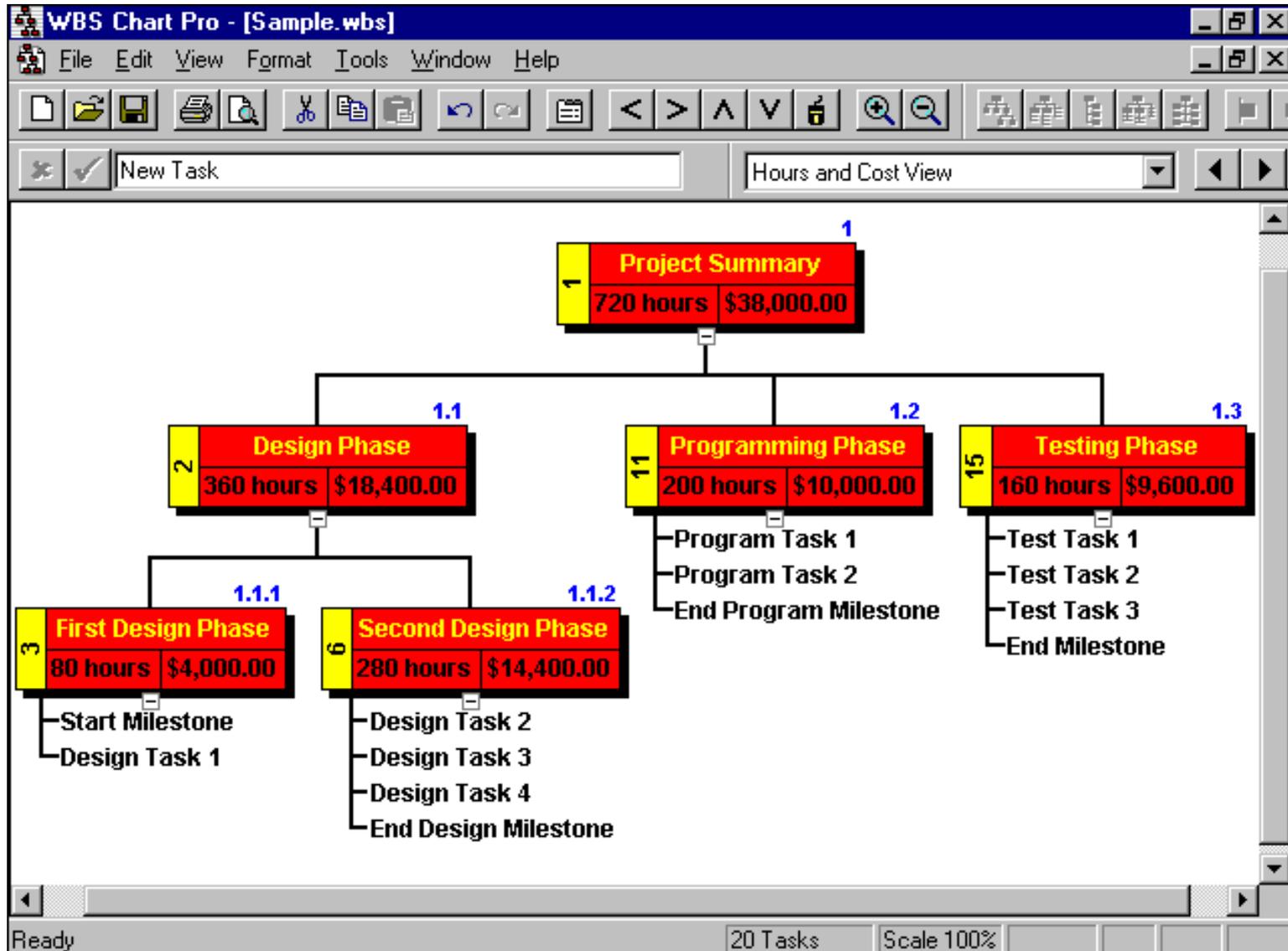
Another example of WBS: "Holiday"
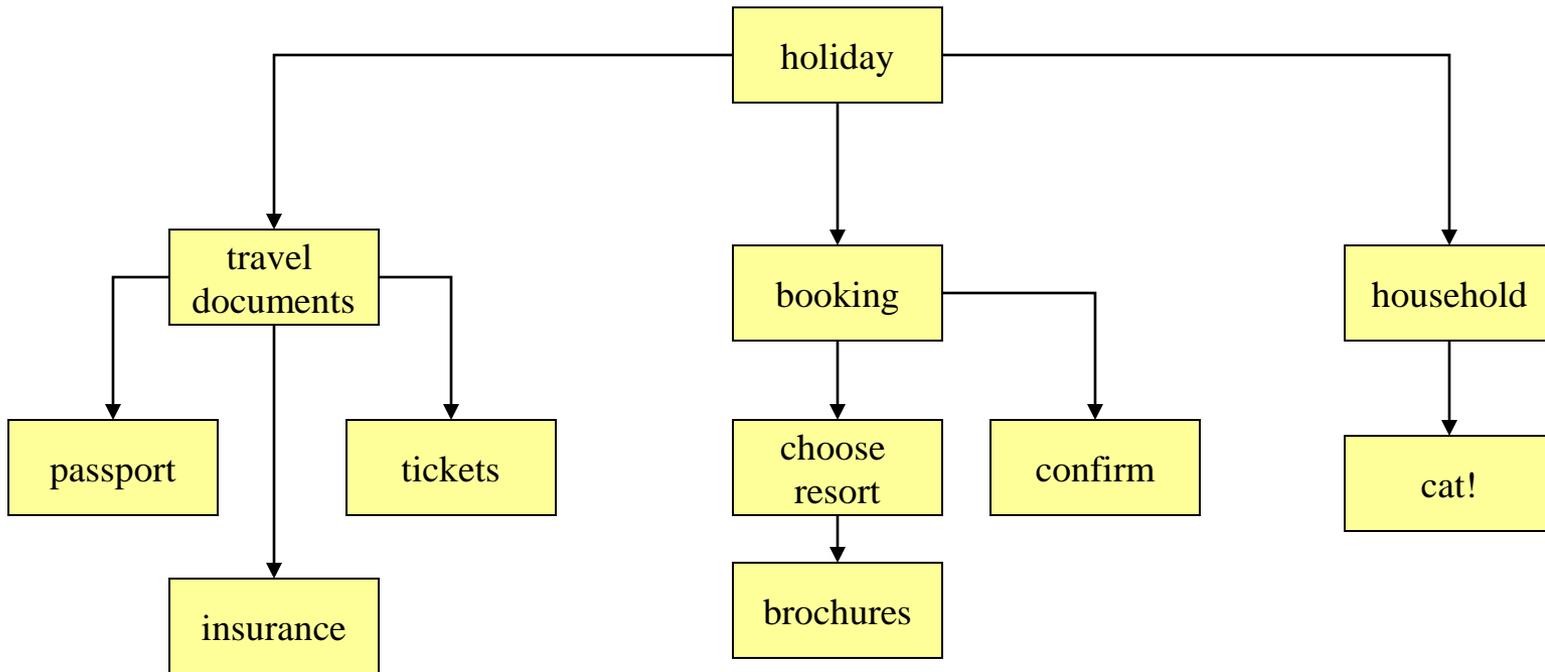
Network Analysis

Network

- Graphical portrayal of activities and event

- Shows dependency relationships between tasks/activities in a project

- Clearly shows tasks that must precede (precedence) or follow (succeeding) other tasks in a logical manner

- Clear representation of plan – **a powerful tool for planning and controlling project**

Network Analysis

Network analysis is the general name given to certain specific techniques which can be used for the **planning**, management and control of projects.

One definition of a project:

"A project is a temporary endeavor undertaken to create a **"unique"** product or service"

History

- Developed in 1950's
- CPM by DuPont for chemical plants
- PERT by U.S. Navy for Polaris missile

CPM was developed by Du Pont and the emphasis was on the trade-off between the cost of the project and its overall completion time (e.g. for certain activities it may be possible to decrease their completion times by spending more money - how does this affect the overall completion time of the project?)

PERT was developed by the US Navy for the planning and control of the Polaris missile program and the emphasis was on completing the program in the shortest possible time. In addition PERT had the ability to cope with uncertain activity completion times (e.g. for a particular activity the most likely completion time is 4 weeks but it could be anywhere between 3 weeks and 8 weeks).
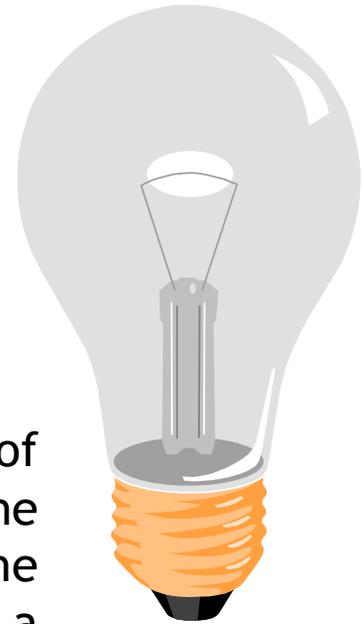
CPM - Critical Path Method

- Definition: In **CPM** activities are shown as a **network of precedence relationships** using activity-on-node network construction
  - Single estimate of activity time
  - Deterministic activity times

  USED IN : Production management - for the jobs of repetitive in nature where the activity time estimates can be predicted with considerable certainty due to the existence of past experience.

PERT -
Project Evaluation & Review Techniques

- Definition: In **PERT** activities are shown as a network of precedence relationships using activity-on-arrow network construction

  – Multiple time estimates

  – Probabilistic activity times

  USED IN : **Project management -** for non-repetitive jobs (research and development work), where the time and cost estimates tend to be quite uncertain. This technique uses probabilistic time estimates.

Note that detail of PERT and CPM will be discussed in detail in a separate chapter **"Project Scheduling"**