CERTIFICATE PROGRAMME
IN
PROJECT MANAGEMENT

(For Implementation Officers of Development Departments)

(MODULE PREPARED AS PART OF THE UNDP/DoPT PROJECT ON CAPACITY BUILDING FOR STATE TRAINING INSTITUTES)

BY

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CERTIFICATE PROGRAMME IN PROJECT MANAGEMENT

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PREFACE

The Distance learning module on "**PROJECT MANAGEMENT**" is prepared as part of the UNDP assisted project on Capacity Building for State Training Institutions with technical support from ***Indira Gandhi National Open University***, New Delhi. The Module is designed as a national package to suit the requirements of Class I and II Officers of the development departments from all states, at the national level. The idea to develop such a package basically emerged from Training Need Assessment conducted as par of the project. We hope that the completion of the programme will enable the officers to conceive and develop a feasible project report, which may help the concerned departments in the project formulation to avail financial support from various funding agencies.

The faculty team owe a lot to the Department of Personnel and Training **(DoPT**) for extending the facilities for undergoing a Distance Learning Training of **IGNOU**, New Delhi. Shri. O.P. Agarwal, Joint Secretary, DoPT took special interest in the successful conduct of the training programme and the subsequent development of this package. We also have benefited a lot from the interaction we had with him during the different stages of the development of this package. Shri. Venkatesan, Joint Director, **DoPT** also took personal interest in the programme and in the development of the module. We take this opportunity to express our sincere gratitude to Shri. O.P. Agarwal I A S, (Joint Secretary to Government, DoPT, Govt. of India) and Shri. Venkatesan for their help and support in completing this module.

Dr. Santosh Panda, Course Director of the Distance Learning Programme at IGNOU, Delhi is the source of inspiration behind this work. Dr. Manjulika Sreevasthava and Dr. Venugopal Reddy, our beloved mentors, took considerable pain in reading the manuscript and guiding us to prepare the package in the format of a distance learning material. We own a lot to both of them.

This work would not have been possible without the earnest support we got from Shri. Rudhra Gangadharan I A S, Director, **IMG**. He extended all possible support and made us relatively free in spite of the busy schedule of the Institute. We wholeheartedly place on record our gratitude to our Director. We gratefully remember the support we got from Shri. R. Muraleedharan Pillai, Senior Programmer, IMG for the graphics and designs, Mrs. Usha for excellent word processing and Mr. Sasi for Xerox service. We also thank our colleagues and other staff members in **IMG** for encouraging us and extending us love and care in the timely completion of this work.

Dr. S. Sajeev
Dr. R. Ram Mohan

Thiruvananthapuram
18th February 2002

CERTIFICATE PROGRAMME IN PROJECT MANAGEMENT

PROGRAMME GUIDE

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CERTIFICATE PROGRAMME IN PROJECT MANAGEMENT

PROGRAMME GUIDE

Welcome to the Certificate Programme in Project Management which has been designed to facilitate you to develop project proposals on your own. In order to familiarize you with the programme we have developed this programme guide. It is expected that you read this programme guide before you actually go through the modules. Before we tell you more about the programme and its objectives, target group, duration, content and design, we want you to understand the background for developing such a programme.

1. Context: Preparation of a feasible project proposal/plan is a pre-requisite for project implementation either in the social or in the commercial sector. There exists wide potential in undertaking and implementing development projects with financial support from various funding agencies at the state, national and international level. The agencies, however, will finance a project only if the proposal for funding is well conceived and developed. The initiative of various state governments in the context of *Decentralised Governance* also demand planning and implementation of projects at the micro level. It is in this context that this programme is being offered. We are sure that it would not only serve your purpose but, at the same time be an interesting and educating experience.

2. Programme Objectives: On completion of the programme you will be able to:

- Plan and develop feasible project reports.
- Execute, appraise and monitor projects
- Evaluate projects

3. Target group: The programme is meant for government officials working at the national and state level, engaged in the task of undertaking and implementing projects in the fields of agriculture, industry, health, rural development, fisheries, etc.

Eligibility: Professional Graduates with minimum 3 years experience in the relevant field.

Or

Any officer from the State/Central Govt. whose job requirements include Project Formulation/Implementation.

4. Programme Design: As you are aware, the programme is being offered through the distance learning mode. We will be providing you printed self learning materials along with Programme Guide and Assignments immediately after your registration. The course materials will be sent to you by post within 2 weeks from the date of your registration. Counseling and Mentoring support will also be provided. There will be only continuous evaluation and no summative evaluation. However, your project report will be evaluated at the end of the programme. Thus the programme is a judicious mix of theory and practice based modules to develop the required skills in project management.

4.1 Course Schedule

Reading and Comprehension	-	60 hours
Assignments	-	20 hours
Counseling	-	8 hours
Mentoring	-	2 hours
Project Report preparation	-	30 hours
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		120 hours
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5. Programme Structure: The programme comprises of 4 modules. Each module consists of a few units. Module is a booklet covering a particular major theme. A unit is a lesson related to the major theme comprising sections and subsections. The module wise content of the programme is given below.

MODULE-I: PROJECT FORMULATION AND APPRAISAL.

Unit 1: **Basic Concepts of Project Management**

Unit 2: Project Appraisal
Unit 3: Requirements of a Detailed project Report

MODULE-II: PROJECT PLANNING IMPLEMENTATION AND CONTROL

Unit 4: Project Planning
Unit 5: Project Implementation and Control

MODULE-III: MONITORING AND EVALUATION

Unit 6: Monitoring
Unit 7: Evaluation

MODULE-IV: *PREPARATION OF A DETAILED PROJECT REPORT*

Unit 8: **Guidelines for Project Preparation**

6. Programme Fee: The programme fee per participant will be Rupees 900/- (Rupees Nine hundred only) to be paid at the time of registration by way of Demand Draft drawn in favour of Director, IMG payable at Thiruvananthapuram.

7. Duration: The programme can be completed in three months (minimum period). However, a participant can complete it within a maximum period of one year.

8. Support Mechanisms: In addition to the self instructional (printed) materials, you will be provided counseling and mentoring support. There will be three counseling sessions that will be held (One per month) at the Head Quarters of the Institute and at its Regional Centres at Kochi and Kozhikode with prior intimation to the participants. Mentoring support would be provided by your project supervisor/guide. The project supervisor will be selected by you based on the criteria specified by the Institute which is given in Module-4 (unit 8) of the programme. Adequate support will be provided by the Institute to ensure individual care and attention.

9. Evaluation: You are required to submit three assignments, one assignment per module. The assignment booklets (three in all) will be supplied along with the self instructional (print) materials. You are required to submit the duly attempted assignments within the stipulated dates (1 month per assignment) to

the Project Director, Distance Education Cell, IMG, Vikas Bhavan, Trivandrum – 695033. You are also required to submit a project proposal (synopsis) for approval to the Institute. On approval of the proposal (synopsis) you would commence working on the project. Based on the approved project proposal (synopsis) you will prepare the project report (as per guidelines given in Module IV of the self instructional material). The assignments and project report will be graded on a 5 point scale viz., A (excellent) B (very good) C (good) D (average) E (unsatisfactory). Assignments carry 30% weightage and project report 70% in the overall assessment.

In order to complete the programme successfully you are required to secure a minimum of 'D grade' in the assignments and project report. The overall grade, however, should be C. You will get 3 more chances to improve your grades in case you are placed in D or E grade. There will be no term-end examination and you will be graded only based on continuous evaluation through assignment and evaluation of project report. To enable you to comprehend the contents given in the modules we have included *activities* which do not carry any weightage in the overall assessment.

10. Certification: You will be awarded a certificate by the Institute, reflecting the award on completion of the programme within 12 weeks from the submission of the Project Report.

BEST OF LUCK

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2003

PROGRAMME GUIDE

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MODULE-I

PROJECT FORMULATION AND APPRAISAL

INSTITUTE OF MANAGEMENT IN GOVERNMENT
THIRUVANANTHAPURAM

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MODULE-1

OVERVIEW

PROJECT FORMULATION AND APPRAISAL

- **This module has three units. The first unit (unit 1) provides you an understanding of project management. It details what a project is and how different it is from an activity. This also explains what management is in the context of project management. The fundaments and utility of project management have also been dealt with in this unit. The unit concludes with the criteria that may be adopted for ensuring project success.**

- **The second unit deals with project appraisal and its importance in the overall context of Project Management & Implementation. The various aspects of developing a typical project considering different appraisal aspects have been considered in this unit.**

- **The third unit will help you to understand the requirements of preparing a Detailed Project Report and stresses upon the operational and logistical aspects underlying the same. This unit would definitely help you in identifying a project in your own area of operation.**

UNIT 1: BASIC CONCEPTS OF PROJECT MANAGEMENT

Objectives

At the end of this unit, you will be able to:

- define the concepts of project management
- distinguish project from an activity
- explain the requirements of project management
- evolve a criteria for project development

Structure

1.1 INTRODUCTION

This unit will help you in understanding the concept of Project Management. You will also be able to recognize what a project is and what it is not. It enumerates the need and develops on the criteria for success of Projects in the context of available tools and technologies. With this background, we hope you are ready for the course.

1.2 WHAT IS A PROJECT?

You may be already exposed to the concept of project management. However let us brush up on the fundamentals before we proceed further. All of you might have attempted working on projects, without realizing the fact that you were already working on a project. The term "project" instills in us the picture of something unique which is different from the daily, routine and regular activities. You may define a project as a group of interconnected activities, which is time specific and location specific. For e.g. it would be a small project for a Medical Officer working with a Primary Health Centre (PHC) to conduct an awareness and immunization action camp for polio. Another apt example would be when an Agriculture officer decides to conduct a one-day seminar to sensitize farmers about the "recent pest infection in wheat cultivation". For a commoner, a project would probably be a task of building a house, setting up his/her business etc. Projects can therefore be differentiated from your regular, routine customized operations on a number of parameters as given below.

Table 1.1: Project and Production

	SERVICE PROJECT	**PRODUCTION ACTIVITY**
1.	One time	Repetitive
2.	Investment may be small or big. No revenue	Revenues and profits even loans can be accounted for
3.	Social benefit to the target group is always stressed.	Social benefit need not necessarily be emphasized.
4.	A broad variety of knowledge and skills used with a need for effective co-ordination.	A narrow school of knowledge and skills used.
5.	May involve specialized equipment and tools for shorter duration	Equipments would involve continuous/repetitive usage.

6.	Co-ordination/Involvement of specialized and varying agencies dependent upon the nature of the project	Outside agencies may be suppliers of new services or buyers of products.
7.	Wide variety of technological aspects to be considered.	Technological aspects limited to production process.

In Government/Industry most of the projects are a one time job as against the repetitive regular jobs undertaken in a normal product situation.

You would appreciate that in the construction of a dam, acquisition of machinery, conduct of a health camp, conduct of training in new farming technologies, conduct of a workshop on alternate uses of Rubber Industry for Small Scale Industries (SSIs) – all would involve a large and diverse amount of resources which are to be deployed in terms of many divergent areas – human, materials and financial resources. It is also stated that while a project is running, no direct benefits will accrue. For e.g. – if a hydroelectric dam is under construction, no power can be generated and land irrigated, unless the dam is complete and commissioned. On the other hand when the project is over, we tend to get results on a continual basis. For example, once the above dam is completed and commissioned, the power production can commence and users can get benefit from regular production.

In the context of Government, it is in the public interest that the revenues/ social benefits for each project cover the cost and thereby yield tangible/ intangible gains for the public. Another distinction of project in comparison with regular operations are with the skills and multiplicity of resources employed in the project. For e.g. If an inland pisciculture (fish culture) project has to be started, one may require to construct big tanks for growing fish. Hence we may require technical experts/ engineers to construct such tanks, but when the project is completed and the fish cultivation actually commences, we need not retain the professional expertise of the engineers.

We hope that you have understood the fact that expertise needed for one type of project may be different from that of another. Contrast that with a regular operating system where cattle feed is manufactured. Here we require only a limited number of skills and due to the fact that it is repetitive, learning by experience takes place. Projects may also involve special equipments depending upon the nature of the project. For e.g., in the case of a mini hydel project, we may require construction, soil testing and special purpose

equipments. You may compare this to a regular operational system, wherein a limited number and variety of equipment are in continuous use. Thus, in projects, whether in Government or otherwise, you may require the involvement and co-operation of a large number of agencies. For example, if the Medical Services Department has to conduct a Seminar/ Workshop on HIV and AIDS, it may require the services of the Police Department, Social Welfare Department, AIDS Control Cell, National AIDS Control bodies and even NGOs.

Executing and commissioning new projects are entirely different from running an operating system. The abilities or skills required are so diverse and quite often you will realize that no single agency can deliver the required results. These agencies will have to perform multiple functions and for that, we need to have specialized agencies performing functions like driving of piles, doing geological excavation of soil, fabrication of equipment constructing a fishery boat etc. This you will realize, we cannot wish away role performed by specialized agencies, in a project set up.

Activity 1.1

We hope you have understood what a project is and how it is different from a routine programme/ activity. Having understood this, list a project that you would like to implement in your scheme of operation. Please explain the characteristics that distinguish this project from other normal routine activities.

First write the title of a suggested project and then go write your answer in the space provided below.

1.3 WHAT IS MANAGEMENT

All of you have evolved your own methods to relate and function yourselves effectively at home and in your profession. Probably this may be due to training, or it may be due to grooming. However, the concept of Management is as old as the history of human beings. Whenever more than one individual join together to form a group with the objective of realizing common objectives or goals, the concept of management will knowingly or unknowingly came to play. It may so happen that the individual contributions may be similar or specialized but they add up to contributing to our larger objectives. For example, one needs to think of a project involving digging tube wells in an area where water is scarce. You may have to solicit the support of geologists, tube well riggers, plumbers, persons from the Local Bodies, Water Board or Corporation etc., pitching in with their own skills and expertise. But only a concerted or orchestrated pull of these individuals forces will ensure optimal results.

We hope you can imagine if these people start pulling off in different directions. Do you have such a situation to think of. If so, reflect how you could have avoided that.

Now visualize a situation, where the varying skills and expertise are applied in a concerted way. You would realize the moment there is a slight variation in the direction between the individual forces, the outcome is less than the sum of the two forces. Imagine a situation akin to a tug of war where two groups of people pull off in different directions. Contrast that to a situation where people pull in different directions. Now tell us whether this is relevant in your scheme of work.

In government, public sector and private sectors, hundreds or thousands of people are employed with well defined job functions for undertaking different activities or projects aimed at fulfilling the priorities of its management. You would have seen an army of ants, or swarm of bees working effectively in groups to track down food or hunt down their prey. Therefore, Management as a function had existed from times immemorial and flourished in several human organizations, in the church, in the army, in missionary institutions and even in tribal societies. Moreover the need for management though

relevant to all walks of life, has occupies a special place, but, only after the industrial resolution in Europe.

1.4 UTILITIES OF PROJECT MANAGEMENT

Now you may connect the earlier concepts which we have introduced with that of 'Projects' and 'Management'. You will realise that Project Management is nothing but the Management of Projects as opposed to the management of productions or operations system. All of you are Project Managers in some way or the other though you may not be officially designated. Doctors, veterinary Doctors, Agricultural officers, Industrial Officers, Fisheries extension officers and even as a bureaucrat or Minister we perform functions which warrant a basic understanding of Project Management. Now imagine a scenario, where the multiple tools and techniques are effectively used to manage projects in your scheme or vocation. Does it sound interesting and challenging? Now if you say yes, you are on the right track.

The various tools presently used in Project Management were developed based an specific needs. However, it was later used in other projects as the need of managing existing projects seemed inadequate. The "Gantt Chart", Programme Review and Evaluation Technique (PERT) and Critical Path Method (CPM) are approaches aimed at better control and co-ordination of projects. You will learn in detail about this in Module: II (Unit: 5). However, for those of you, who are keen, they may attempt to read on this topic further. However, at his level you will agree that Gantt chart, PERT, CPM etc., are tools that help manage and schedule activities in a sequential and logical manner, allocate resources based on needs, reallocate resources, remove unrewarding activities, reduce activity duration and effectively reduce the project costs and duration, without compromising on the project outcomes.

Having said that can you recall an instance, where you have undertaken a project and intensively applied these concepts. Kindly, recall how the outcomes have been different from the traditional outcomes, where you may not have used these concepts?

Here, we would like to exercise a word of caution. The notion that Project Management is simply a bundle of techniques captured by CPM/ PERT or such tools may be discarded. Whether we work in Government or not, the concept of Project Management assumes great significance. Knowingly or unknowingly, whether we cherish it or not, we have to work on projects. Then

can't we make a better job out of it? Since the functions of governments all over the world have tended to be more responsive and result oriented, they are functioning like Private Sector Organizations and Corporate entities. This is because of meagre resources and largely unfulfilled social needs. Therefore the concept of Project Management assumes added significance in a developmental context like ours. The Ministry of Programme Implementation, State Planning Boards, Planning Commission etc. are all involved in the successful management and monitoring of Government Projects.

 **Activity 1.2**

Do you realize the importance in your vocation. If so please write in your words the following.

1. What types of functions on your job qualify to come under Project Management?
2. List down how the concept of Project Management can improve your job function.

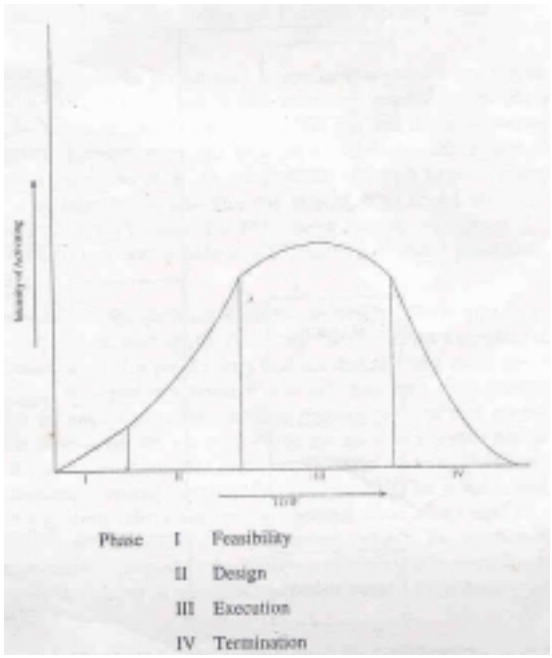
1.5 FUNDAMENTALS OF PROJECT MANAGEMENT

Having understood the relevance of Project Management in your job, you would agree that you need to familiarize yourselves with some of the important concepts of Project Management.

1.5.1 Project Life Cycle

The concept is simple but very important. The concept essays on the life cycle of a typical project, giving adequate weightage to the intensity of activity, in each phase of the project. Accordingly a project can be divided into four specific phases as under

- Feasibility
- Design



- Production
- Termination

Fig. 1.1: Project life cycle

A cursory glance at the figure gives you a general idea of the nature of activities and the intensity of activities involved. Hence the figure is self explanatory.

However can you visualize a project undertaken by your Department or by yourself. Does it follow this figure? If no, reflect on why it does not?

The concept of project management can also be viewed from the angle of different functional specializations in management. If you look at it this way, you may end up with different functional specialties, of which you may have competence in none or a few of these. These are given below.

- Technical/Professional
- Commercial
- Financial
- Social/Political
- Economic
- Environmental
- Management

At each phase of your project, you may realize that there is a great interplay of these specialties and the success or future of the project is largely dependent upon the effective management of these dimensions.

1.5.2 Feasibility

Are you now sure that resources are limited. Hence you have to make the best possible use of resources, whether it is human, material and other resources. The feasibility aspects of a project proposal looks at whether the considered project is workable.

The Project as you know will be broken down into a number of activities. Each of these activities may require certain environmental settings, the absence of which may result in the non-execution of the activity, which in turn would result in the stoppage of the Project. This unfortunately may result in delay of the project and huge time overruns. Hence this should be best avoided. We are sure that you will be recalling at least a couple of instances where the inordinate delay in identifying aspects of technical non-feasibility have grounded certain projects.

Even in your job settings, you may have to shortlist different projects at the idea stage. Here what is expected is that, you do an analysis of the multiple benefits arising out of the project, vis-à-vis the investment concerns. This is best said than understood. Hence we intend to clarify further.

At the outset of the project all of you will be having a body of information, knowledge and understanding of the possibilities open for fulfilling the needs. Based on this, you may conceive several ideas and realize that some ideas are more workable than the others. Here we may have to *prima facie* screen project ideas, based on their relative feasibilities. At this juncture, we are interested broadly in the likely demand-supply gap, the technical feasibility and the funding sources. After this the project is subjected to a detailed investigation on all the six dimensions (mentioned under Project Life Cycle), which have an impact on the project. Ultimately a decision is taken to drop an idea or go ahead with another. You will appreciate the fact that we have to take an investment decision at this stage, because we need funds to convert ideas into an executable project. Do you agree with this? If so please read further.

It should also be appreciated that the feasibility of a project made at a point in time is valid only for that project. Some projects, which are viable today, seemed unviable at another time – e.g.: manufacturing of aero planes in the early 18th century seemed unviable then..

Activity 1.3

Can you think of any project which you deem viable at the moment, but was considered unviable years or decades back. If so please write it in the space provided below

In case a project idea is found to be feasible from all considerations, you may give the 'go-ahead', which indicates a commitment on your part/and/or on the part of higher authorities to provide necessary resources for carrying the project to its logical conclusion.

Thus the 'pilot phase' of the project can be summarized as under.

(a) Identification of the needs.
(b) Establishing primary feasibility of the idea.
(c) Are alternatives available?
(d) Investment decision.

1.5.3 Design or Planning Stage of the Project

Have you heard about the statement "Well begun is half done". This is exactly what you have to recall now. We have to picturise the project, so that the complete 'blue print' of the project is available for the next stage. At this phase, you may recall the six dimensions, which we mentioned earlier. If you have forgotten, please revise the aspects that have to be paid attention and considered in detail. If you have correctly addressed these features, you would produce a Detailed Project Report (DPR) which again requires additional inputs. Having said that, can you visualize designing a small project suitable to your work situation.

1.5.4 Production

You may know that before we actually start implementing any project, we may have to go through a logically sequential series of activities. Here, we are learning the word activity. What is an activity? Activity is nothing but, project broken down into identifiable, meaningful jobs. Activities can be construction of a room, preparation of a plan, transfer data on a computer, erection of steel frames, installing computers, construction of a dam etc.

Following from the above, it would be justifiable if you could sequentially mark the activities on a chart-Gantt chart for example, is an ideal one. You may refer to Fig. 1.1, which plots intensity of activity against time. Here we are plotting activities against the actual time in Fig 1.2.

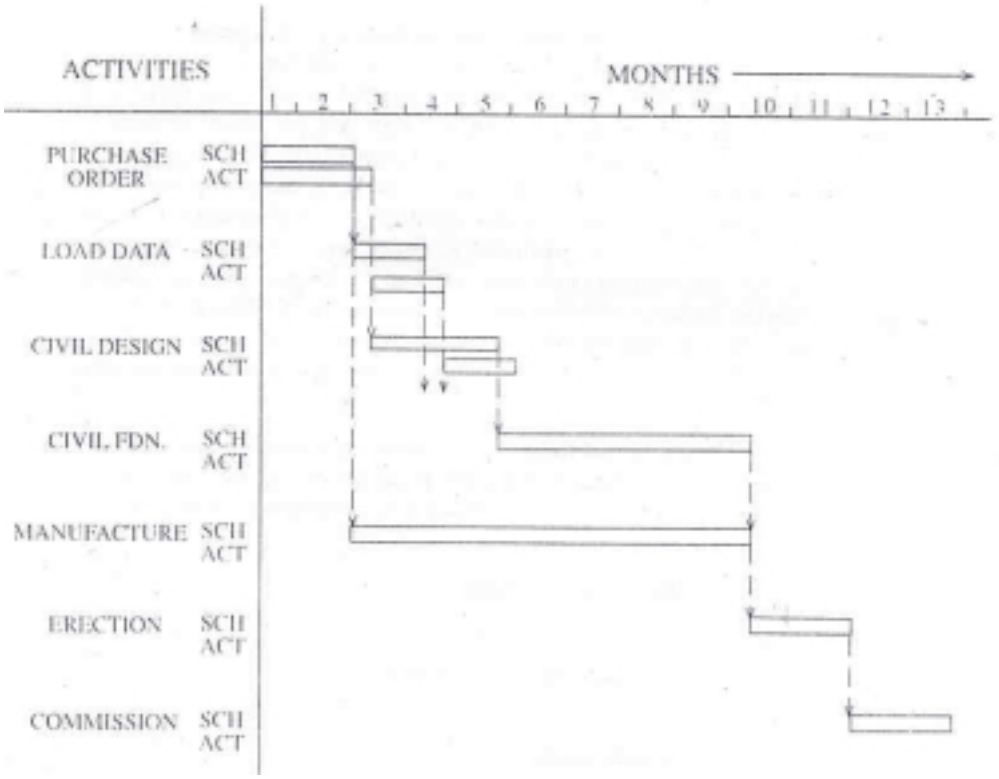


Fig 1.2:
Gantt Chart: Construction of an X-ray room

The example is a based on certain assumptions and experiences the author has in the past and is not intended to highlight anything, but on the logical sequence of activity to save on time. You would appreciate that this exercise will help in monitoring and controlling all activities and help in deciding corrective action and deciding on other contingencies, (which are common to any project involving many agencies).

1.5.5 Termination of Project

Once the project reaches its end you call this the termination of the project. The output of the project will be realized by the user groups (or beneficiaries of the project). During this phase, you are supposed to check out whether the constructed facilities, installation or other resources deployed have been tested, one by one and whether everything works in an integrated manner. You should not leave the project as such at this phase but as you would have imagined, we need to identify a group of persons (if required) to take over the project. Suppose your project is to start a poultry farm. You may have constructed the poultry sheds, arranged supply of chicks, chicken feed and

other infrastructure But if you have no body to rear the chicks, nobody to market the eggs or meat, how can the project run? Now, you will realize the need to identify persons who can be trusted to manage the project in a competent way. In many Government projects we tend to ignore the importance of this phase of the project and the success or future of the project is very much dependent on how effectively you manage this phase. At times we have to recruit, train and even prepare instructional materials, working with them to familiarize the project managers to the situation.

It is not mandatory that a project should be terminated. The project life could be extended if it is properly monitored and evaluated. For this appropriate project review and revitalization techniques have to be adopted.

Activity 1.4

Can you recall a situation where this phase was effectively considered and not effectively considered. Kindly reflect your ideas in the space provided.

1.5.6 Project Interfaces

Having understood the different phases of a project, you can easily figure out what a project interface is. The theoretical demarcations – Feasibility, Design, Production and Termination are not apparently visible in a life like situation. These theoretical demarcations are more intended to help you figure out the necessity of special inputs at each phase of the project. These phases can go ahead concurrently or in other words at the same point of time. The project interface is a time phase where two activities can concurrently go ahead. This is done to avoid optimizing of resources-making but making best use of

human resources, time and money. For e.g., if one were to set up a photo studio, you may be thinking of designing the studio ordering the equipments finding out professionals all at the same time, without realizing that they fall under different project stages.

Now that you have understood, you may appreciate the fact that the first two stages-Feasibility and Design and more like an intellectual exercise while the emphasis shifts to execution during the project phase where you have to translate the plans and designs into reality. So you should be careful that certain phases can only follow logically for eg. the construction of a building should precede the adequate design stage. At the same time if we have to order machinery/ equipment to be installed and if its ordering time is large (due to heavy demand), we may order the machinery in advance accordingly.

Thus to summarise, the interface on the one hand represents a period of transition where both kinds of activities might be in progress and all the required managerial skills may have to be deployed. You should hence give adequate importance to managing the project interface. We are sure you appreciate the concept and make it practical in any project – domestic or official – you will undertake in future.

1.5.7 Project Monitoring and Control

Though this will be dealt in sufficient detail in subsequent modules, let us be familiar with these terms is the basic functions of management namely planning, organizing, staffing, leading and control. You would appreciate that the words – planning, control and re-planning constitutes the endless cycle of Management. Having said that can you now visualize what monitoring is. Monitoring involves taking a stock of the situation and control involves comparing the present status with the plan to find whether directions and corrective measures are required to fulfill the plan as expected.

 **Activity 1.5**

Have you undertaken any monitoring and control activity in your job or as a specific assignment. If so, please write about that experience in the space provided below.

Having reflected so, you may imagine a situation in the African plains, where a pride of lions chase a group of antelopes. The lions spot the deer and start chasing it. The lions continuously monitor the route taken by the deer and change courses and the lions do not rest until the objective of killing the prey is achieved. Similarly, a project begins with an original location. Since we are working under changing situations and due to conflict of interacting forces, the perceived or expected achievements may be delayed. This is nothing unexpected, as we have to take care of those uncontrollable or unforeseen influences affecting the project. Suppose you want to complete construction of a building within 3 months before the rainy season. However there is an expected storm which compels you to postpone your arrangements for the construction. We all come across such contingencies in our daily life. Thus, we would like to impress upon the fact that you need to keep yourself aware of these happenings and ought to make corrective actions, if such deviations take place. So while attempting project management, we can evolve a system of our own to assess the progress, acting as a check and balance system. We would appreciate that from now on if you realize the importance of the monitoring and control system and start instituting one in your Project management situation.

1.5.8 Management Information System (MIS)

The Management Information System (MIS) is nothing but a system designed to receive the data regarding the Project status at pre-determined intervals. This does not stop here. You may have to process this information to evaluate how these outcomes or deviations from expected outcomes affect your project outcomes. You will be interested in projecting these impacts in terms of an expected date and cost of completion. We are sure you would appreciate that these processed information will help you decide the necessary corrective actions and facilitate their execution.

By now, you would have realised the importance of a Project Management Information System (PMIS). In the post modern era, we have computers

which use software packages like MS Project. This helps us in successful monitoring & control. As Project Managers/Executives/Officers we need to recognize the importance of these tools, so that we know about what we are at and more importantly when we go wrong or deviate, and then attempt corrective steps.

Having said that can you visualize a Project Management Information System for your office whereby you could institute appropriate Monitoring & Control Systems.

Activity 1.6

(a) Visualize a project in your vocation. Identify the different stages of the project and diagnosis the intensity of activity and time duration needed for completion.

Note: Answer this question in the space provided below:

1.6 CRITERION FOR PROJECT SUCCESS

As we have pointed out earlier, management is an age old function. So Managers – Practitioners and theoreticians have worked on enlisting the success and failure factors. You would appreciate that a successful project should conform with;

- Time
- Cost schedule
- Technical specifications
- Performance of the completed project/achievement of project goals

However, we may stress on the following criteria which are considered must for project success.

- Adequate and timely funding.
- Through feasibility studies.
- Acceptability and co-ordination by all concerned agencies.
- Pragmatic leadership/ Conflict resolution mechanisms.
- Proper Organisation with an effective MIS.
- Professional protection/ insulation.

Activity 1.7

The above list is only indicative. We are sure you would have at least ten more aspects which you consider important. Could you list them down for your benefit.

1.7 SUMMARY

Now that you have come to the end of the unit, let us briefly refresh your learning. You should have by now understood what a project is and how different it is from an activity. The concept of Project Management, Product life cycle and the various phases in a project was explained in this Unit. You must have also looked at the possibility of Monitoring and Control and development of a Project Management Information System. You must have also read the criteria or factors for the success of a Project. If you are convinced you can carry on.

1.8 CHECK YOUR PROGRESS

1) Differentiate between Project Management and General Management by giving examples from you job situation.

2) What is a Project Life Cycle. Please explain the concept with the help of an example, stressing on what you would gain out of it.

3) What do you understand by Project Interface? Please give instances where such project interfaces have come into play in job situation/ knowledge. What kinds of resources or skills are required to manage this?

4) The successful completion and management of any project is determined by many factors. Please prioritise those factors based on your understanding and experience.

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1.10 KEYWORDS

We have introduced the following keywords in this Unit. Now kindly recall what you have understood by these terms. If not please turn back

1 Project and Actions
2 Project Management
3 Appraisal
4 Production
5 Product Life Cycle
6 Project Phases
7 Project Interface
8 Project Monitoring and Control
9 Project Management Information System (PMIS)
10 Criteria for success of Project

BEFORE WE PROCEED

You might have gone through this unit thoroughly. We hope you have understood the concepts introduced. You might have undertaken the activities and reflected on some of the probing questions asked. You may also be ready to answer, “check your progress” by now. The Assignment booklet on this unit is also available, which you should attempt compulsorily. This Tutor Marked Assignment has to be given once you feel you are thorough with the topic. Now can you go ahead, if so, proceed to Unit 2.

UNIT 2: PROJECT APPRAISAL

Objectives

At the end of this unit, you will be able to:

- State the importance of appraisal in the selection of the project.
- List the overriding concerns for developing a project.
- Explain the importance of technical and market appraisal.
- Explain the importance of economic and financial appraisal.

Structure

2.1 INTRODUCTION

In unit 1 you were introduced to the basic concepts of project management with special reference to its utilization and application in your work situation. You have also identified and analysed the criteria for the planning and execution of a field level project.

In this unit, we will discuss in detail, the importance of different appraisal techniques in selecting a project. We will also analyze the various appraisal stages that a project has to pass through viz., Technical, Market and Economic/Social for its final selection and execution.

2.2 IMPORTANCE OF PROJECT APPRAISAL

You are well aware that we are operating in a situation in which the availability of resources are very limited and its requirements are abundant. Therefore, you will appreciate that the available limited resources should be utilized in a most effective manner resulting in maximum benefit to the society. The selection of an appropriate and effective appraisal technique in checking the feasibility of a project, assumes paramount importance.

You are also aware that the execution of a project, whether it is a commercial one or social one, involves huge outlay of cash. Moreover, it is undertaken on the anticipation that it will provide benefits/services on a long term basis. The huge amount so spent will go in vain unless projects are screened through rigorous appraisal techniques.

Most of the project investment decisions are also irreversible in nature. Let us take the example of driving a car. Assume that you are driving a car. At a particular junction you drive the car to the left sideway instead of going to the right side. You have immediately realized that you are on the wrong path. What you will do? Naturally, you will put the car on the reverse gear, take it back and will go in the right direction. The project investment decision is a car without a reverse gear. You can reverse the decision, otherwise, at a very huge cost.

Since the amount of investment in the projects are on long term basis, these decisions will also have a bearing on the risk complexion, growth and long term survival of the firm.

 Activity 2.1

Do you think that project appraisal techniques are important in the context of investment decisions. Why?

Note: Answer this question in the space provided below.

2.3 DEVELOPMENT OF A TYPICAL PROJECT

You may be interested in knowing the developmental process of a typical project. A project usually passes through three developmental phases:

- Pre-investment phase – A phase in which the project idea is generated and conceived. This includes the identification of relevant investment opportunities, preliminary filtrations, project formulation and trial evaluation decision.

- Investment phase – The second phase comprises the formulation of detailed design and implementation. This involves several inter-

disciplinary tasks comprising negotiation and contracting, preparation of detailed project design and its implementation.

- Operations phase – This is the third and final phase in which the actual operation commences. This involves the day to day operation of the completed project resulting in anticipated benefits and attainment of desired objectives.

2.4 TECHNICAL APPRAISAL

You may now recall that the screening of project proposal through different types of appraisals is important for its successful implementation. We will now examine how the technical aspects of a project idea can be scrutinized in detail to evaluate its technical feasibility, as distinct from commercial, economic and managerial feasibility.

You may well appreciate that a project can be considered for implementation once it is technically fit for implementation. We should also consider the different alternative technology options that are more cost effective and environmental friendly. A technology is considered appropriate only if it is assessed to be satisfactory and relevant, vis-à-vis the following aspects in the specific situation to the project.

- Specification of the task/ product
- Developmental imperatives (growth of employment, maximum use of local resources, reduction in parities of income level etc)
- Required gestation period versus the time available for the project.
- Indigenous availability of comparable technology.
- Dependence as non-renewable resources of energy
- Capacity of the organisations to absorb/ adopt the technology
- Timely availability of man power with required skills
- Safe characteristics
- Environmental and socio-cultural sensitivities

These are the general guidelines that you should consider while carrying out the project. You may also consider other aspects, which have direct relevance to the proposal you propose to develop.

Needless to say the greater the thoroughness with which the technical analysis is carried out, the more reliable and complete the project specification would be, and the lesser the chances of major unforeseen problems creping up and damaging the project.

2.5 MARKET APPRAISAL

It is imperative that you should consider the requirements of your customers before finalizing any project idea. To survive in the market you have to be forward looking, carry out market/ demand analysis and develop strategic business policies. In this session we will discuss the various aspects that should be considered in market appraisal.

Demand Forecasting

You are aware that all business planning starts with forecasting. High volume, high technology, mass production systems have further underlined the importance, of accurate demand analysis. Any mismatch between actual production and demand will lead to higher capital tied up in the finished products which are slow in selling. The demand forecasting can be any of the following levels

i) **Firm Level:** Forecast demand at the national, state or regional levels

ii) **Industry Level:** Forecast demand for the industry on a whole at the national, state or regional levels (may be undertaken jointly by group of companies)

iii) **National Level:** Forecast demand to facilitate the government to take policy decisions on import, export etc.

iv) **International Level:** Forecasting demand for companies operating at the multinational level.

Criteria for a Good Forecasting Method

You may consider the following as good indicators while making your demand forecast.

i) **Accuracy in forecast:** The accuracy of your forecast depend on the basic assumptions based on which you developed the prediction. It can be measured in terms of past forecast against, current revenue and by the present as of deviation from actual demand.

ii) **Plausibility of forecast:** You may note that the forecasts of demand must be reasonable, consistent and plausible

iii) **Economy of forecasts:** You may carry out your forecast exercise with minimum effort and cost

iv) **Quick results:** The method you have selected should be capable of yielding quick and useful results

v) **Flexibility:** Flexibility of forecast is an added advantage. You may be able to adjust co-efficient of variables from time to time the cope with the changing conditions.

You may now be curious to know how a systematic demand forecasting can be carried out. Different qualitative and quantitative techniques are available for conducting a reasonably accurate forecast of demand. We may now further discuss some of those techniques.

i) **Collective opinion survey:** The sales/field personnel attached to an area will collect the opinion of the customers on the product/ services of a firm. These estimates are collated, reviewed and revised to work out a realistic demand forecast.

ii) **Survey of customer intention:** Collection of customers intention through questionnaires or through interviews.

iii) **Delphi method of demand forecasting:** Opinions of experts in the related field are collected, collated, edited and summarised. The summarized report will again be subjected to cross verification by experts in the panel.

You may note that quantitative techniques such as simple average method, moving average method, exponential smoothing method, Regression analysis, Econometric models etc are available for demand forecasting.

We have discussed in the foregoing section about the importance of market/ demand analysis and gone through the criteria for a demand analysis and some of the techniques for demand forecasting. A detailed analysis of demand forecasting is not attempted because of its limited application in your work situation.

Activity 2.2

What factors would you consider relevant for a good market appraisal? Give details of the factors, which you had considered for a market appraisal, which you already undertook in your organization.
Note: write your answer in the space provided below.

2.6 ECONOMIC AND FINANCIAL APPRAISAL

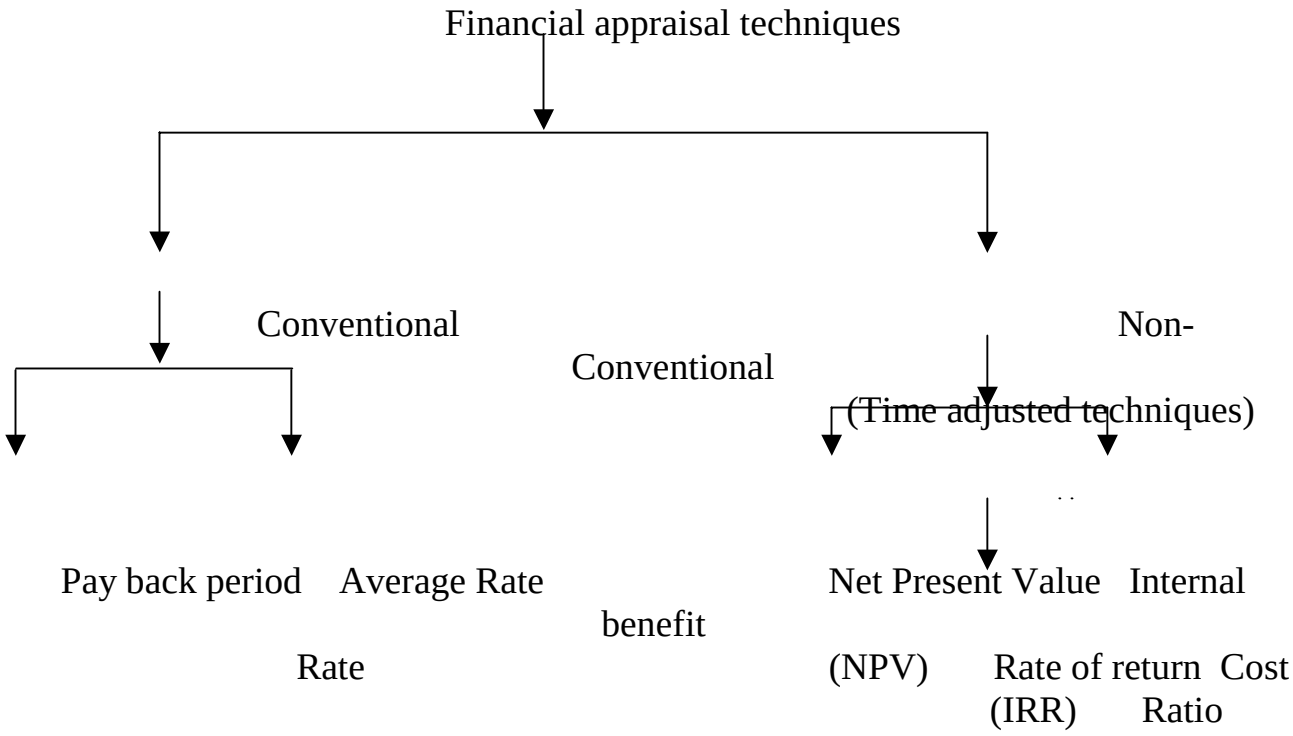
In the preceding sections of this unit you were introduced to the concept of technical and market appraisal. In this section we will discuss the economic and financial appraisal for the final selection or rejection of a project.

You are aware that implementing projects, involves huge expenditure, it is a strategic decision which is not easily reversible. Wrong decisions can land the investor into major problems. At the same time, without taking developmental projects we cannot ensure social development/ expansion and growth of

companies. These projects inducing large capital outlays have to be appraised from a financial point of view.

We will now discuss the various financial appraisal techniques that are commonly used for evaluating the feasibility of a social or commercial project. You may look at **Fig 2.1.**

Figure 2.1



It is evident form figure 2.1 that method of evaluation may be conventional (non-sophisticated) or non-conventional (time-adjusted techniques) now let us examine them, one by one.

2.6.1. Average rate of return on investment

This is an accounting method taking book profit after taxes and depreciation as revenue for appraisal. There is also disagreement on the definition and a number of alternative methods of calculating the rate of return are available. The most commonly used equation is given below. Please refer equation 2.1

Equation 2.1

$$\text{Average Rate of Return on Investment} = \frac{\text{Average Annual Profits after taxes}}{\text{Average Investment over the project life}} \times 100$$

Equation 2.2

$$\text{Average Annual Profit} = \frac{\text{Total of annual profits after taxes}}{\text{No. of years of estimated useful life}}$$

Equation 2.3

$$\text{Average Investment} = \text{Scrap Value} + \frac{(\text{Original Cost} - \text{Scrap Value})}{2}$$

Scrap value, if any, is added since it is invested throughout the life of the project. The full amount of working capital, if any, should also be added in order to work out the average investment.

Example: Now you may go through the following example.

A firm proposed to invest Rs.60,000/- either in Project A or in Project B. The following additional information are available.

Example 1

Yearly income after Depreciation and tax		
Year		
I	4,000	12,000
II	5,000	9,000
III	7,000	7,000
IV	9,000	5,000
V	12,000	4,000
Total	37,000	27,000

Estimated Life	5 years	5 years
Estimated salvage value	3,000	3,000
Working Capital required	NIL	NIL

Now let us work out the ARR.

$$\text{Average profit (as per eqn. 2.2)} = \frac{37000}{5} = 7400$$

$$\text{Average Investment (as per eqn. 2.3)} = \frac{3000+(60000-3000)}{2} = 31{,}500$$

$$\text{Average Investment (as per eqn. 2.1)} = \frac{7400 \times 100}{31.500} = 23.5\%$$

Some other analysis use the initial cost instead of the average investment for working out the ARR. The ratio, in that case, in the former example will be

$$\frac{7400}{60000} \times 100 = 12.3\%$$

Accept/Reject Criterion:

You may note that, in a mutually exclusive situation, the proposal with the highest ARR will be accepted if there are more than one project proposals for consideration. However, if there is only one proposal for consideration, the actual ARR will be compressed with a pre-determined ARR. The project under consideration will be accepted only if the actual ARR is equal to or more than the pre-determined ARR.

Advantages of ARR – we may now look for the merits of ARR method

- Simple to calculate and easy to understand
- Consider the entire profit over the estimated life of the project for appraisal
- Uses the book profit for appraisal which is easily available.

Disadvantages of ARR – let us now examine the demerits of ARR method

- Does not consider the time value of money

- Uses accounting profit for appraisal which does not represent the actual cash flow generated.

2.6.2 Pay Back Period (PB)

You may note that pay back period is a conventional or traditional method which is simple and perhaps most widely used for project appraisal. It is a measure, in terms of time, it will take to recover from proposed operations, the initial investment which normally disregards the salvage value of the equipment at the end of its useful life. You can calculate the payback period as mentioned below. The revenue to be considered here will be cash flow after taxes but before depreciations.

- When the cash flows are constant throughout the life of the project

Equation 2.4:

$$\text{Payback period} = \frac{\text{Initial investment}}{\text{Annual cash flow}}$$

- When the cash flows are not constant

Equation 2.5:

$$\text{Payback period} = \text{No. of full years required} + \frac{\text{Balance cash flow required to realize the original cost}}{\text{Cash flow in the relevant year}}$$

Now you may again consider example I. Let us work out pay back period for Machine A and B in table 2.1.

Table 2.1

Year	Machine A CFAT *	Machine B CFAT *
I	16,000	24,000
II	17,000	21,000
III	19,000	19,000
IV	21,000	17,000
V	24,000	16,000

* Calculated after adding back depreciation of Rs.12,000 (60,000/5) as per straight line method of depreciation.

Pay back period for

$$\text{Machine A (eqn 2.5)} = 3 + \frac{8000}{21000} = 3.38 \text{ years}$$

$$\text{Machine B (eqn 2.5)} = 2 + \frac{15000}{19000} = 2.79 \text{ years}$$

Accept/Reject Criterion

Similar to ARR, pay back period can also be used as a criterion for selection or rejection. In a mutually exclusive situation the project with the highest ARR will be accepted if it exceeds the pre-determined ARR.

Advantages

- Just like ARR, pay back criterion is easy to calculate and simple to understand
- Consider the cash flow rather then the accounting profit for appraisal

Disadvantages

- Does not consider the time value of money
- The cash flow after the pay back period is not considered for appraisal

2.6.3 Discounted Cash Flow Techniques

As you have already noted, traditional methods of project evaluation do not take into account the total benefit from the entire life cycle of a project. They also do not consider the time value of money which should be an important criterion for project appraisal. Now let us acquint with the following discounted cash flow technique.

Net Present Value (NPV)

The objective any business organisation, in the modern context will be to maximize the net present value or net present worth of an organisation. The NPV technique, therefore, is in perfect agreement with the wealth

maximization objective of the firm duly considering the time value of money, which are absent in the conventional techniques.

Let us now understand what is NPV and how it is calculated. NPV is the difference between Gross Present Value of expected future benefits and initial investment the Gross Present Value of expected future benefit is calculated by multiplying the cash flow after taxes of each years with an appropriate discounting factor.

Discounting factor, which is otherwise known as cost of capital or cut off rate is the minimum rate of return expected by an invests to keep the market value of his share unchanged.

Symbolically, the calculation of NPV can be expressed as follows:

Equation 2.6

$$NPV = \frac{Cf1}{(1+r)1} + \frac{Cf2}{(1+r)2} + \ldots\ldots + \frac{Cfn}{(1+r)n} - I$$

Where Cf1 = cash flow in the first year
Cf2 = cash flow in the second year
Cfn = cash flow in nth year
r = cost of capital or discounting rate
I = Initial cost

Let us again consider example I. The NPV of Machine A and B can be calculated as detailed below in table 2.2:

Table 2.2

Year	Machine A			Machine B		
	CFAT	**Present value factor at 10%**	**Present value**	**CFAT**	**Present value factor at 10%**	**Present value**
1	16,000	.909	14,544	24,000	.909	21,816
2	17,000	.826	14,042	21,000	.826	17,346
3	19,000	.751	14,269	19,000	.751	14,269
4	21,000	.683	14,343	17,000	.683	11,611

5	24,000	.621	14,904	16,000	.621	9,936

Gross present value	=	72,102	74,978
Initial Cost	=	60,000	60,000
		12,102	14,998

Accept/Reject Criterion

Capital expenditure proposal with a positive NPV or which exceeds a pre-determined NPV, can be selected for implementation. In a mutually exclusive situation the project with the highest NPV will be selected.

Advantages

- This technique duly considers the time value of money
- The NPV technique is perfectly in agreement with the objective of maximization of wealth of the share holders.
- Considers the entire cash flow stream for evaluation.

Disadvantages

- Difficult to calculate and understand
- The determination of an appropriate discounting factor involves tedious calculations.

Activity 2.3

Distinguish between the pay back period and NPV methods as criterions of project appraisal.

Note: Give your answers in the space provided below.

2.6.4 Internal Rate of Return (IRR)

Now let us discuss another method of time adjusted technique to evaluate an investment proposal. You may understand that this method is known by many other names also – yield on investment method marginal efficiency or capital method, marginal productivity of capital method, rate of return method, time adjusted rate of return method etc. This method is best described as the rate of return the project earn for itself because, it is that discounting factor which equates the present value of cash flow with the aggregate present value of cash outflows of the project i.e. this rate of discounting which gives zero NPV.

You may note that the calculations of IRR is a difficult task. IRR is a powerful financial tool to assess the financial viability of the project. It can be accomplished through trial and error method. However, there is an easy method to calculate IRR if we follow the steps in the sequence given below.

Step 1: Determine a fake - pay back factor (FPBF)

$$= \frac{\text{(Original Investment)}}{\text{Annual Cash Flow}}$$

Step 2: Refer Present value an annuity of Rs. 1 table and find out the factor which is almost near to the fake pay back factor (Table given in appendix 2) look horizontal to the last years cash flow. e.g. if cash flow is upto 10 years, look horizontal to 10^{th} year.

Step 3: Find out NPV based on that factor (look vertically at the top and find out percentage). If NPV so calculated is negative, try at a lower rate and continue the process till you arrive at a positive NPV. You may reverse the process if the originally calculated NPV is positive.

Step 4: Now you have positive and negative NPV. The exact value of NPV now can be calculated by applying the formula of interpolation as given below:

Equation 2.7

$$\text{NPV} = \text{LF} + \frac{\text{NPV of LF} \times \Delta \text{ DF's}}{\Delta \text{ Calculated GPV's}}$$

Where LF = Lowest Factor
Δ = Difference
DF = Discounting factor
NPV = Net Present Value
GPV = Gross Present Value

You can start with highest rate also. If you follows highest rate, NPV will be as per the following equation.

Equation 2.8

$$\text{NPV} = \text{HR} - \frac{\text{NPV of HR} \times \Delta \text{ DF's}}{\Delta \text{ Calculated GPU's}}$$

where HR = Highest Rate

Let us calculate IRR based on the figures given in example I

	Machine A		**Machine B**
Step I: FPBF	= 60,000 / 97,000/5		60,000 / 97,000/5
	= 3.092		3.092

We may refer table in appendix 2 we find the nearest factor corresponding to 5 years at 19%. For machine A, since cash flows of initial years are lower, we can reduce the discounting factors subjectively say 1% and for machine B,

cash inflow of initial years are high, we can increase the discounting factor by 1%.

NPV for machine A at 18% = + 1,347
NPV for machine B at 20% = - 141

Since NPV at 18% for machine A is positive we may reduce the rate to arrive at a positive NPV. Similarly for Machine B, we will increase the rate to arrive at a negative NPV.

NPV for machine A at 17% = - 164
NPV for machine B at 20% = + 1108

Now we have got a positive and negative NPV for both the machines. We may interpret that IRR lies between these two rates and actual value of IRR can be calculated by applying the formula of interpolation.

$$\text{IRR for machine A (eqn 2.7)} = \frac{17}{1511} + 164 \times 1 = 17.11$$

$$\text{IRR for machine b (eqn 2.8)} = \frac{20}{1249} + 141 \times 1 = 20.11$$

Accept, Reject Criterion

The project will be accepted if the actual IRR is greater than or equal to the pre-determined rate. in a mutually exclusive situation, the project with the highest IRR will be selected.

Advantages

- Duly considers the time value of money
- Considers the entire cash flow stream for appraisal

Disadvantages

- Involves tedious calculations
- It assumes that the cash in flows are reinvested at the same IRR which need not necessarily be correct.

Activity 2.4

What is IRR. Describe the method by giving an example of a situation you are familiarized with.

Note: Give answer in the space provided below.

2.7 SOCIAL COST BENEFIT ANALYSIS

You have so far gone through the financial or commercial appraisal of projects which are more relevant to commercial organisations. But you may note that these types of appraisals are not generally applicable to social projects. Social cost benefit analysis is done from the view point of society or economy as a whole. The evaluation is done on a wider angle not merely on

financial terms. Social appraisal of projects should cover the following whether.

- It fits into natural priorities
- It contributes to the development of that sector or economy
- Benefits justify the consumption of scare resource of the nations.

The concept of social cost benefit analysis, as you are aware, is fairly simple and well known. The application of cost benefit analysis on a limited scale, started in India in the sixties. The SCBA has not widely been used except in case of some irrigation project. It is only in the last few years that the planning commission has been insisting upon CB analysis as a criterion for 'passing' a project for public investment. SCBA thus reflects the opportunity cost of the project.

2.7.1. Methodology for SCBA

You may understand that the SCBA in a broad sense, attempts to specify all the expected changes viz., economic, social and environmental likely to arise as a result of implementing the project. As discussed in financial appraisal, there will be inputs and outputs for a project in which price can be assigned. Since both inputs and outputs are spread over a number of years, it is necessary to combine the costs and benefits streams that arise over the economic life of the project. You may appreciate that time value of money is relevant here and there arises a need for appropriate discount factor. You may apply an appraisal technique like NPV, IRR or Benefit Cost Ratio to arrive at an accept/reject decision.

You may be interested to know the different approaches available for social cost benefit analysis. The planning commission, Government of India, the ministry of finance, Department of Environment etc. have published their own approaches for SCBA. A systematic application of SCBA would generally involve the following.

- Estimating economic, social and environmental inputs and outputs of the project.
- Assigning prices (values) for the estimated inputs and outputs.
- Determination of an appropriate discounting factor
- Assessment of social acceptability of the project

2.7.2 Estimation of Benefits and Cost

You can broadly classify the economic, social and environmental benefit and cost of a project in to three categories. The first category comprises those benefits and costs which can be quantified and can also be translated in to money terms. For instance, benefits from a hydro-electricity project arising in the shape of supply of electricity can be quantified in terms of units of electricity generated and distributed. You can also translate this into monetary terms by using the rate per unit of electricity to be charged by the project authority.

The second type of benefits and costs are those which could be quantified but cannot be translated in to monetary terms. For example, if as part of the hydro-electricity project, a dam is constructed for storing water to bring it through penstocks for throwing the water on the generators to run them, the storing of water in the dam may yield benefits in the second category. If it can be traced that the dam would be put up in an area which has been flood prone and because of recurrence of floods in the area ten lives used to be lost every year, the dam by holding flood waters would save the area from recurrence of floods, and thus would save ten lives which used to be lost every year. The benefits in such a case would be ten lives saved per annum, which has been quantified but cannot be translate into money terms. You know that it is fairly difficult to assign a socially acceptable money value to a life saved.

. The third category of benefits and costs which can neither be quantified nor translated in to money terms. Continuing our example of the dam to be constructed as part of the hydro-electricity project, it would also render benefits to the environment of its existence beautifies the area and improves the landscape because of he availability of water. However, these benefits rendered to the society by the creation of the dam would be of an intangible nature which can neither be quantified nor translated into money terms.

2.7.3. Shadow prices

You will agree that the cost and benefits of a project can be estimated only if the inputs are translated in to cost by the use of price mechanism. The output of the project which is measurable and convertible in to money terms is translated in to monetary benefits with the help of prices. What prices are used for converting inputs in to cost and output in to monetary benefits determine the complexion of social cost benefit analysis. These prices which

are relevant for use in social cost benefit analysis are called shadow prices or social prices or planning prices, or accounting prices.

You may be aware that the prevailing market prices need not reflect the true scarcity value. In SCBA you may go what is behind market prices. The shadow prices express prices in terms of opportunity cost. If for example, the real resources used for producing a ton of fertilizer cost Rs.2000/-, its shadow price should be Rs.2000/- per ton even it may be supplied to the farmer at a subsidized rate of Rs.1500/- per ton. Hawala rate will be a fair reflection. You may look at another example. If the prevailing rate of foreign exchange is higher than the officially fixed rate, then the price of imports in to country is understated. In such a case, the shadow price of foreign exchange used in social cost benefit analysis would be higher than the official exchange rate. Also, while determining shadow price of a commodity, taxes are renewed from the market price, as these are considered to be transfer payments and therefore not a cost to the society.

2.8 SUMMARY

You will now appreciate that evaluation of a project is necessary before these are sanctioned for implementation ARR, PBP, NPV and IRR are few techniques very important for financial evaluation of project. Social cost benefits far exceed the cost to community, state and the nation as a whole. If you are ready, we may proceed to the next unit.

2.9 CHECK YOUR PROGRESS

1. Economic analysis is done from social point of view in contrast to financial analysis that is a private analysis from the view point of a producer. How does it bring about a change in the methods of evaluation? Describe with example.

2. A firm considers two projects for implementation that are mutually exclusive. The details are given below

Particulars	Project X	Project Y
Initial Cost	5,00,0000	5,00,0000
Estimated Life	8 yrs	8 yrs
Salvage Value	50,000	50,000

Working capital Requirement at the beginning	25,000	Nil
Cash flow after taxes	**Rs.**	**Rs.**
1 year	75,000	25,000
2 year	1,00,000	75,000
3 year	2,00,000	2,00,000
4 year	3,00,000	3,00,000
5 year	2,00,000	2,00,000
6 year	75,000	1,00,000
7 year	25,000	75,000
Total	9,75,000	9,75,000

You may determine:

1. Pay back period
2. Average rate of return
3. Net present value and
4. Internal rate of return. Explanatory notes and detailed comments should form part of your answer.

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2.11 KEY WORDS

We have introduced these keywords in the chapter. Now kindly recall what you have understand by these terms. If not please turn back

1. Pay back period.
2. Accounting rate of return
3. Internal rate of return
4. Social cost benefit analysis

5. Net present value
6. Gross present value
7. Fake pay back factor
8. Environmental impact assessment
9. Demand forecasting

BEFORE WE PROCEED

You may have gone through this unit thoroughly. We hope you have understood the concepts introduced. You may have undertaken the activities and reflected on the probing questions made. You may also be ready to answer, “check your progress” by now. The Assignment booklet on this unit is also available, which you should attempt compulsory. This Tutor Marked Assignment has to be given once you feel you are thorough with the topic by self-learning or through counseling or even by mentoring. Now can we go ahead, if so, proceed to Unit 3.

MODULE-1

UNIT 3: REQUIREMENTS OF A DETAILED PROJECT REPORT

Objectives

At the end of this unit, you will be able to:

- Identify the different requirements for the preparation of a detailed project report
- List down the operational and logistical aspects for the preparation of a detailed project report
- Identify a project in your area of operation

Structure

Unit 3

REQUIREMENTS OF A DETAILED PROJECT REPORT

3.1 Introduction

You have already gone through the basic concepts of project management and understood aspects of project appraisal in the previous units of the same module. In this unit, you will learn how a Detailed Project Report is planned. You would look at the social marketing aspects of the project formulation and subsequently the technical and financial aspects of project formulation. Then we would discuss the operational aspects, logistical framework and aspects of evaluation.

Thus in this unit, you will learn in some more detail about the design phase of a project, the output of this phase being the Detailed Project Report which you will be required to prepare at the end of the module and lead to your being awarded a Certificate in the Programme for Project Management.

3.2 Planning of a Detailed Project Report

You would realise that in this unit you would be looking at a very detailed and elaborate plan for the project, indicating the overall programme, different roles and responsibilities and tools/resources required. By now, through you professional experience in government you are familiar with the important role that planning has in any managerial activity. Thus, planning is the success for any human activity – whether domestic or professional. Therefore, you would appreciate that the success of a project depends largely on the quality of the planning exercise and there by the quality of the design itself. The success of a project can be measured by a few crucial parameters. The few aspects for illustration purposes are given below:

- Whether the project has been completed in time.
- Whether financial aspects were within limits.
- Whether the project is working as expected and whether incurred cost are justifiable.

Thus by now, you may have realised that a good design is a must for the success of a good project, but it is not a sufficient condition. This is because the plans should translate into tangible action.

In your professional life, can you reveal an instance where the plan/design for a project was perfect, but it failed to take off? Please reflect.

Now you will realise that the design provides the blue print for the construction of all facilities regard in a project. It details at great length and detail, what must be done to convert the investment design of a feasible project into the reality of a sensible healthy workable project. Thus, you will know whether the overall project/policy guidelines of the local government/state/central government are complied with. The design relooks at the appraisal, the financial appraisal in particular. You would also need to look at other aspects like marketing, technology, funding, execution and operation. It should also consider the nature of risks involved in the project-both during and after the project phase, with certain built in measure to counter the major risks. Thus the plan becomes the reference point for all future monetary and evaluation activities.

Thus a DPR is a fund detailed appraisal report on the project with guidelines for execution and evaluation. It encloses the roles and responsibilities, activities to be carried out and the resources required, risks and faced means to counter them.

Suppose you are confronted with the task of preparing a Detailed Project Report (which would of course should translate into action) for providing drinking water in a remote village. You could imagine that there could be different sources for providing water. The water source could be from community wells, tube wells, by digging ponds, making reservoirs, from multipurpose dams, hydal projects or from pipes from neighbouring villages or towns and even other states. How will you decide what is the appropriate way. Is it that you have only one way for providing water to a location? There cannot be just one way. But there has to be many ways it is natural. But how do you decide which project to choose and which projects are to be dumped. Here is where your project management skills should come to the fore.

In this example you have to convert the document into a feasible (possible/practical) idea. Sometimes project ideas look so interesting, but never translate into action. Can you imagine why we encounter such situations? Subsequently the project (Drinking water in our case or any project) may conform with policy guidelines an all aspects having a bearing on the entire duration of the project. It should be viable financially, technically, socially and should work on a continuous and systematic basis when the project is commissioned. You may recall that inadequate detailing or considerations of these projects like for e.g., digging for water when the Aquifer (water) level is more than 1000 meters would mean lack of technical

feasibility. Suppose the social group you intend to serve prefer clean drinking water, and what is provided by you after heavy investment is hard water, you can imagine the outcome and social reprisal that may fall upon you.

In government, we have give examples where such projects have failed. There is a famous example of "Providing Plastic Baskets for fisherwomen-vendors" which fell through because plastic baskets did not consider the phenomenon of melting of ice and subsequent water collection in the basket. Then was a case of a Housing Board constructing houses without kitchens. There are cases of big projects like Dams remaining incomplete due to inadequate financial appraisal/financial and allocation - leading to huge time overruns and losses for the country. Now are you convinced in some measure that we need to have planning?

3.3 Social Marketing for Project Formulation

In the last section itself, you have gone through the examples of socially undesirable projects which have fallen flat. Here let us look at this aspect in detail as it is a vital aspect affecting project success. Why is it so? This is because any project is designed/initiated to cater to the felt needs of a community. It may be anything from power, housing, transportation, irrigation, communication, services and even to providing employment and health facilities. The first step in the design of a project, therefore, is to establish and understand the nature of need. Sometimes projects are concerned to tackle symptoms of a problem and not to tackle the problem. Have you understood what we meant?

Let us take an example. Suppose there is a case where fishermen get poor value for their catches, though the consumer prices for marine products and the demand are quite high. On appropriate diagnosis of the case it is revealed that the poor returns of the fishermen catches are more due to the bondage/poor infrastructure-support or in other words the indebtedness of the fishermen to the middlemen and their services, for which they charge heavily – hence we come into a typical development project.

In the above example poor value/price is just a symptom, with the actual problem attributable to the poor institutional credit/infrastructure available to the fishermen. Suppose we fetch better markets for the catches, even then it would not have served the cause of the fishermen, for whom the project was conceived. Since most of you are involved in developmental planning and projects, the projects of your concern should be "socially marketable".

Thus the DPR must lay down plans for effectively securing the patronage of a major chunk of population and maintain/enhance it. We call this the social marketing strategy. Social marketing and social concerns are very often forgotten, and the project may collapse as there may not be takers for the project on completion.

Thus we need to look at the following aspects:

- Whether there will be sufficient beneficiaries for the project even at the end of the project duration envisaged. Suppose you are keen on providing high quality veterinary services for farmers after 2 years projection duration. Suppose these farmers are changing their cattle rearing practices to the extent that they may not have much cattle after two years. Then who stands to benefit?

- Policies of government – whether the policies of government is likely to change. Suppose as an Agriculture extension officer you plan to provide agriculture/technical inputs to rubber farmers but govt. permits import of rubber due to national/international factors. Then where will you land yourself and the farmers. So the symptoms should not guide you. You have to tackle the basics of the problem, if you intend to be constructive and helpful.

- As project officer, you may also look at the past practices, success and failure records of projects. You may also look at the secondary data sources, government records, publications, bulletins and even scan periodicals, newspapers for project ideas. Many libraries provide a press clippings service, enabling one to keep informed on the economic front.

- As project officer, you should take along with you public opinion. Sometime it may happen that the public may not be aware about the benefits of your project proposal. In such instances you have to educate them, by probably talking and convincing the Sarpanch, Panchayat or opinion makers. There are many cases where projects have fallen through due to improper co-ordination.

- You should also do a brainstorming exercise in consultation with all stakeholders (or a truly representative group) to ensure that the project is a most ideal one from the viewpoint of the public and verify whether they support/patronise the project. Thus a participative approach in discussion making or planning must be followed right from the beginning.

Activity 5.1

Just think of 5 reasons how planning could have improved the quality of the project undertaken by you. Please reflect. Write your answers in the space given below

Activity 5.1

The successful completion of a project is decided on ensuring the cooperation of the stakeholders and involving them at the formulation phase. Discuss with examples for or against the statement. Write your answers in the space given below.

Activity 5.1

Please think of 5 project ideas which you feel would feel can be converted into a Detailed Project Report (DPR). List them with justifications, as to why you feel that these projects (from your location) are feasible. Write your answer in the space provided below.

3.4 Technical Aspects of Project Formulation

By now you must you have understood how a detailed project report could be planned? You were also introduced to the aspects of social marketing in project formulation of your project proposal.

You may agree that most of the technical decisions are usually governed by the strategic considerations leading to a focus on selective competencies. The items requiring sophisticated technology are usually retained as make items. On the other hand, low technology, commonly available items tend to be subcontracted out to derive cost advantages however in sound projects in which you are associated with will not attract much botheration on the technical aspects. Still you must give the attention to the technological aspects which are very relevant for cost considerations and the long term survival and sustainability of the project.

You may also consider the location of the project as a technical factor while developing yours project report. As you are well aware most of the social project are developed based on the felt need of the society. You must be extremely careful with regard to the impact that may be effected in the society through the implementation of the project. The number of people who will be benefited the improved economic status of the people to whom the project will be benefit etc. should be considered and analyzed at the stage of developing your proposal. You might have experienced that in some particulars locations/areas, some types of projects might be implemented many times without considering the impact the earlier projects created in that locality.

You should check as to whether there is a proper facilitating mechanism to implement the project in the project area, the co-operation and participation of the people in the area and the sustainability aspects while developing your proposal. Now reflect on the above before proceeding further.

You must also undertake Environment Impact Assessment (EIA) and devote a separate section on E1A is yours Detailed Project Report. Such an assessment would have the specifications of the environment which is known as the base level specifications before setting up a project. Thereafter, an estimate should be made on the impact of the project operations on various base level parameters. These could cover air, water, and soil parameters, after estimating the impact of the project, on the base level of the environment the DPR should recommend specific control measures and effluent treatment facilities, so that the environment can be restored or maintained at permissible limits.

You should also ensure that the provisions are adequate for fulfilling all the level requirements prevailing in the locality where the project is to come up. Have you done such on exercise either formally or informally. Reflect.

Your DPR must include a section on the overall personnel requirement for the project as well as the operations phase and a broad plan for recruitment, induction and training of personnel. In the initial stages of the project, as you are experimenting with large number of managers are required at the period of the project and execution phase. However their requirement reduces at the implementation and operating stage. Those aspects should also be planned and included in your DPR.

3.5 Financial Aspects

Your DPR should contain a much detailed projection of the cost and revenues expected during the projected lifespan of the operations phase. The principal input to this comes from operations cost. However all financing costs, like depreciation, interest on long term loans, writing off preliminary expenses etc. may be included in the calculation. The DPR should provide projections for

- **The Profit and Loss Account:** The profit and loss account for at least for a period of 10 years, based on the anticipated operating cost and revenues should be prepared. You must be as much realistic as possible in your calculations to depict a clear picture of the financial projections.

- **The Balance Sheet:** The anticipated statement of assets and liabilities may also be prepared for the projected period, if required.

- **The Food Flow Statement:** The preparations of this statement will enable you to anticipate the inflow and outflow of anticipated funds during the projected period. This would also help you understand the anticipated pattern of the use of long term and short-term use of funds.

You could also include the projected costs how statement as a pest of yours DPR. The preparations of projected cash flow statement to enable you understand the contingencies with regard to shortage of cost that may arise in the future. At the some time, you could also plan investing excess funds, if any in income generating securities.

You may note that for the project phase, the DPR provides an estimate of the phased requirement of capital. This plan forms the basis of a strategic plan for raising the funds from external services. Your DPR would include a recommended schedule for ensuring adequate flow of funds for the timely competitions of the project, with adequate provision for normal contingencies.

Your DPR must include for the project phase, a recommended system for the monitoring and control of the financial progress of the project vis-à-vis the physical progress. This system is on essential ingredient for financial control, during the execution and termination phase of the project.

3.6 Operational Aspects and Logistical Frame Work

You must be convinced, by now, that a very-wide variety of expertise are required for the preparation of a DPR. A number of decisions are mutually related. For example, financing requirements are dependent on the time schedule for the implementation of the project.

Basically your project should contain the following details.

- Back ground and Introduction.
- Logistical frame containing aims, objectives, activities, inputs, expected outputs, indicators etc.
- Technical financial appraisal and social appraisal.
- Schedule for implementation planning.
- Resources allocation plan.
- Profitability projections including profit and loss account, balance sheet, fund flow statement and cash budgets.
- Breakeven analysis.
- Analysis and recommendations.

The model format of a logistical frame is provided in table 3.1 for your reference. The format may be reformatted to suit your requirements.

Sl. No.	**Objectives**	**Activities**	**By Whom**	**Resources**	**Time frame**	**Expected Output Tangible/ intangible**	**Indicators Measurable /derivable**


Activity 5.2

Develop a logistical framework for a relatively small project which you will undertake in your organization based on the format in Table 3.1.

3.7 Evaluation

The final evaluation for the project rests with the stakeholders. In your case, it is the public (as you serve the government). But in your case you have to double up as a consultant and pose to yourself a few questions. If some major technical or financial aspect is involved, you may solicit professional support.

The evaluation may look at the following aspects. However the list is only indicates.

- What are the sources of date and information? Are they credible?
- What are your assumptions? Are they reasonable? What checks have you made by monitoring and control?
- What are the operational and strategic plans?
- Is the project in line with public policy?
- Is the project feasible – financial wise and technical wise?
- Is the project socially marketable? Here you done participative planning or participation approval.
- What is the amount of detailing that you have made?
- Is there scope or leverage to modify the project to suit future needs?
- What is the impact of the project on Women / SC / ST & other weaker / marginalised sections.

3.8 Summary

You must have realized that preparing a detailed project report (DPR) includes a detailed and elaborate plan for project indicating overall programme, different roles, responsibilities, activities and resources required. The formulation of any project should stress among their aspects on the need for social marketability, public co-ordination, technical feasibility and financial aspects. The project report should also stress on the organizational

framework and the logistical framework required to facilitate the implementation, monitoring, control and subsequent evaluation.

3.9 Check Your Progress

1. It is said that decisions made during the design phase have major impact on the entire project life. Discuss with example from your job.

2. Project should be socially oriented. Highlight the importance of social marketing with special reference to Government projects.

3. Choice of appropriate technology has became extremely important in the emergent scenario of responsive governance – Explain with examples good and bad aspects of inadequate technology choice from your job point of view.

4. Detailed Project Report (DPR) is the keystone for the project. Comment on the statement listing the necessary aspects and the avoidable ones in a good DPR.

3.10 Bibliography And Suggested Readings

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2. I. A. Stellworthy & O.P. Kharbanda, Total Project Management – From Concept to completion, Gower Publishing Co., (1991) U.K.

3. IGNOU, Project Management, IGNOU Publication, New Delhi.

3.11 Key Words

We have introduced these keywords in the chapter. Now kindly recall what you have understand by these terms. If not please turn back

1. Detailed Project Report.
2. Social Marketing.
3. Participative Planning.
4. Financial Appraisal.
5. Technical Appraisal.
6. Break Even.

7. Project Analysis.
8. Profit and Loss Statement.
9. Fund Flow Statement.
10. Evaluation.

CERTIFICATE PROGRAMME
IN
PROJECT MANAGEMENT
(For Implementation Officers of Development Departments)
2003

MODULE-II
PROJECT PLANNING
IMPLEMENTATION AND CONTROL

INSTITUTE OF MANAGEMENT IN GOVERNMENT
THIRUVANATHAPURAM
KERALA – 695033

MODULE-2

OVERVIEW

PROJECT PLANNING IMPLEMENTATION AND CONTROL

- **This module has two units. The first unit (unit 4) provides you an understanding of project planning. It details the breakdown of projects to division/activities and their sequential arrangement, estimation of time and the significance of costing and behavioral aspects in project planning.**

- **The second unit deals with project implementation and control. This unit deals with aspects like development of project information system, the different aspects of resources management and financial aspects in implementation and control**

UNIT 4: PROJECT PLANNING

Objectives

At the end of this unit, you will be able to:

- Breakdown the project to divisions/activities and arrange them in a sequential order
- Make realistic estimates about the duration of the activity and time overruns
- State the requirements of effective human resource management

Justify the significance of costing and behavioural aspects in project planning

Structure

4.1 Introduction

We expect that you have made a thorough understanding of the concepts explained in the first three units comprising of Module I. In this unit we intend to take you further and introduce the concept of networking and project schedule. This in turn will lead to time analysis, human resource planning. Once we have reached that far, we will dwell upon Human Resource Planning, costing and other financing aspects. If it is agreeable let us proceed without any delay.

4.2 Networking

Time is a vital factor for any project and you would agree that one of the most important objective of any project manager is to complete the project on time. For effective monitoring and control, we require to break up a project into smaller activities. Kindly recall that we have already introduced the term activity in the module 1 (Unit 1). The basic purpose of the individual project activity is that if we monitor each of these activities and ensure its timely completion, the project would be completed in time.

Types of Activities

This discussion is to give you certain clarification regarding activity interdependencies.

Simple Event

When an event has only one preceding and or succeeding activity it is called simple event.

Fig 4.2: Simple Event

Merge Event

Merge Event is an event having more than one preceding activity but having only one succeeding activity. Here C is the Merge event.

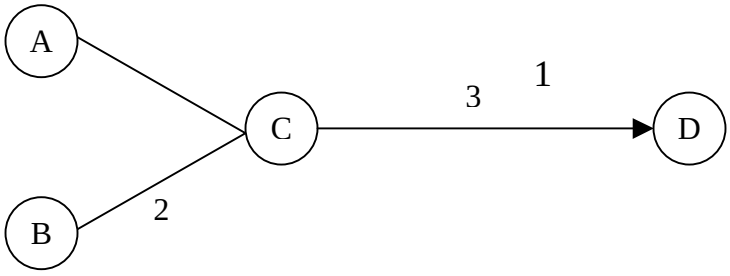

Fig 4.3: Merge Event

Burst Event

This is the reverse of a Merge Event having more than one succeeding activity but having only one preceding activity. In figure 4.4, D is Brust Event.

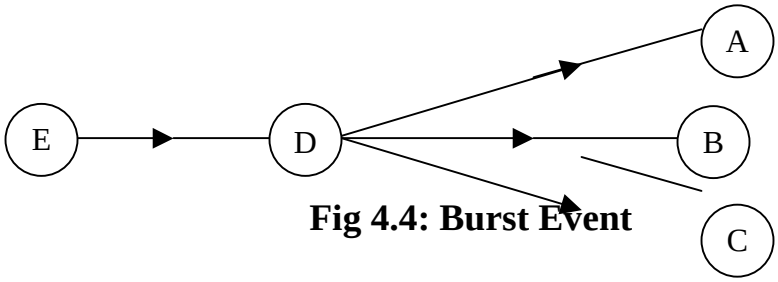

Fig 4.4: Burst Event

At times, we cannot show interdependence by diagrams. In situations where such interdependencies or relationships cannot be established we introduce the concept of dummy activity. We think you would require to get some clarification. Please see fig 4.5.

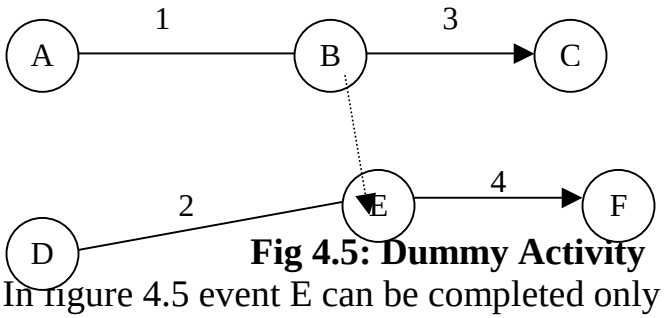

Fig 4.5: Dummy Activity

In figure 4.5 event E can be completed only if activity 1 and 2 are complete. However event B will be complete with activity 1 alone. Do you understand now, why we introduce dummy activities. These are pictorial schemes which will help us to establish interdependencies. In reality dummy activities do not consume time, but are used effectively to explain the network logic. Before we proceed further please try attempting to draw an activity network using different milestones, events which denote completion of activity.

Do you require dummy activity? when you proceed further you will realise that you should not have dummy activity for the sake of having it. Another aspect, is that you should arrange events and activities and label them in their logical sequences. It goes without saying that there should be a minimum of crisscrossing and neat depiction of the network. For eg:- BE is

a dummy activity. The event E can be complete only if the activities DE and BE (dummy) are complete.

4.3 Project Scheduling

For making networks we have to have

- Cost of individual activities
- Activity interdependencies
- Reasonable time estimate of each activity

Let us learn this exercise by an example in Table 4.1. This gives a comprehensive example which highlights the concepts discussed thus far. Suppose a Training programme in Project Management has to be conducted for implementation officers. An activity analysis is first carried at to break up the project into homogenous activities. From a careful analysis of the activities, the immediate predecessors for each activity is also determined. Finally the duration of each activity is estimated based on previous experience.

Table 4.1 : Details of activities for conduct of a Training Programme in Project Management

Activity Code	Activity Description	Immediate Predecessor activity	Estimated duration (weeks)
A.	Finalise training design	-	8
B.	Develop training material	A	6
C.	Schedule Programme	-	2
D.	Obtain nominations from participants	C	3
E.	Arrange venue	C	1
F.	Arrange Resource Persons	C	1
G.	Arrange training kits	D	2
H.	Confirm nominations	D	2
I.	Verify arrangements for conduct of programmes	H	1
J.	Conduct Programme	I, B	1

You will notice from the information contained in Table 4.1, you can see that certain activities do not have any predecessors. For eg. all of them are starting activity. Activity B is only one activity with activity A as its predecessor. So it is a simple event connecting activity A, B. Activity C has 3 successor activities D, E, F. So the completion of activity C and starting of activities D, E, F in a burst event. Working step by step, and systematically, you can build up a project network for this project. In this case it is possible to develop a project network without using three dummy activities, K, L, M as shown in Fig.4.6, under section 4.4.

4.4. Time Analysis for Project work

You will realise now that one of the important questions a Project Manager has to ask oneself is "In how much time can I complete the Project? ". You will realise that Time Analysis helps one to answer such questions. Once the project network and activity durations are known, time analysis is a relatively straight forward exercise. To be more precise, at the end of time analysis we have much more insight into the project and its activities than merely the answer to the question asked earlier regarding the Project Completion. For this, part of the unit, you shall understand the steps involved in performing a forward pass and a backward pass – which together comprise time analysis. You may take the earlier example for the launch of a Programme on Project Management, once again.

4.4.1 Forward Pass

Each Project/Scheme has a zero date – the day on which the project is activated. All reference to time for any activity or event are made relative to the zero date of the project. As suggested by the name itself, in forward pass we begin with the starting activity in the starting activities of the project and gradually move to their respective succeeding activities – ie., more forward in time. You may assume the activity interdependence and time estimation are correct. Then you should naturally pose two questions for each activity to facilitate timely and professional completion of the project.

(1) What is the earliest time at which you can start the activity?

(2) What is the earliest time at which you can finish the activity?

In other words for each activity, we shall be working out its Early Start (ES) time and its Early Finish (EF) time, relative to the zero date of the project.

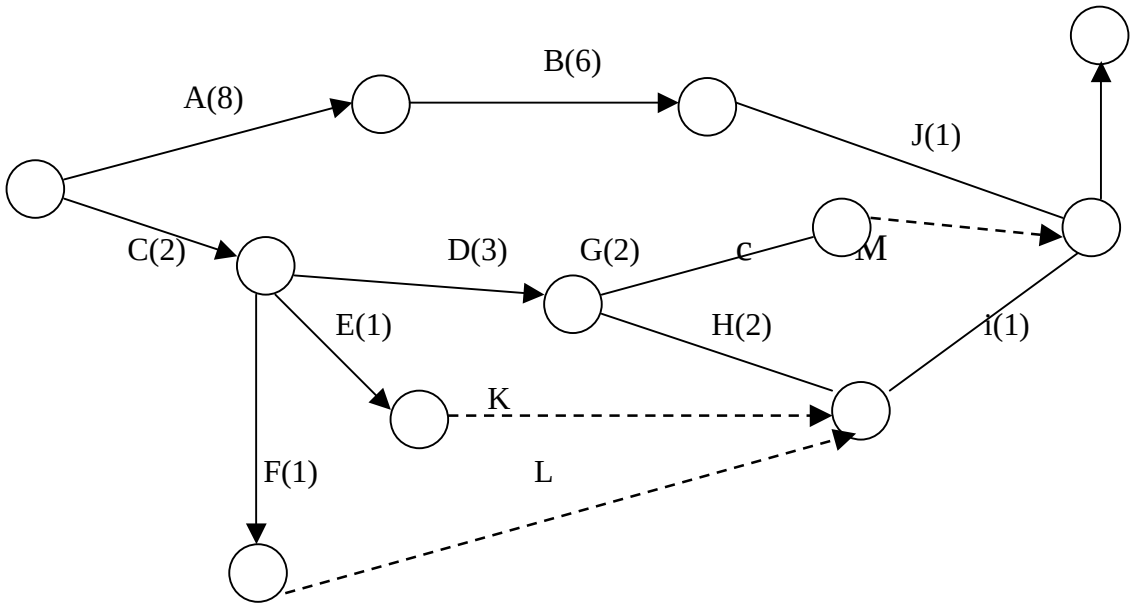

Fig: 4.6. Conduct of Training Programme

For the above example, conduct of the Training Programme, we can see that Early Start for activity A is 0 as the A is the starting activity with no predecessors. Early Finish for activity can be completed in 8 weeks as it is not possible to finish A before this time. When we move to activity B, which is the successor to only A, we find that Early Start for B is 8 weeks and Early Finish is 14 weeks, since activity B requires 8 weeks for its completion after its start. Similarly ES & EF for activity C can be easily seen to be 0 and 2 weeks respectively. Now C is the predecessor activity of D, E, F. In a similar manner, this process can be continued till we have covered all the project activities.

From this, we can find out that Early Finish for activity J is 14 weeks. Table 4.2 lists the results of the forward pass of the project.

Table 4.2. ES and EF for all activities for conduct of the Training Programme in Project Management

Activity (i)	Estimated duration (E) weeks	ES i	EFi
A	8	0	8
B	6	8	14
C	2	0	2
D	3	2	5
E	1	2	3
F	1	2	3
G	2	5	7
H	2	5	7
I	1	7	8
J	1	14	15

For activity j, we can say that

Esj = Max {EF_M, EF_F, EF_J …….. } where F, G, H are immediate predecessor activity of activity j.

and Efj = Esj + tj, where tj is the estimated duration of activity J.

As the EF for activity j is 15 weeks, we can say that the earliest completion time for the new project is 14 weeks. Table 4.2 lists the results of the forward pass for this project.

4.4.2 Backward Pass

If the project has to be completed by a stipulated time, then you may need to ask two questions for each activity.

(1) What is the latest time by which the activity has to be finished?
(2) What is the latest time by which the activity has to start?

In other words for each activity, we can work out its Late Finish (LF) time and its Late Start (LS) time, given that the completion of the project must be achieved by a given date. After the LF and LS times for any activity have been worked out, the same can be done for its immediate predecessors. The process thus begins with the finishing activities of the project and continues through their predecessors till we reach the start of the project. Since we are moving backwards in time, we refer to this excess as backward pass.

For the launch of the training programme, we can conduct the backward pass assuming that the project has to be finished in 15 weeks – its earliest completion time. Thus LF for J is 15 weeks and consequently its LS must be 14 weeks since it takes 1 week for J to be completed. Similarly the LS for B is 8 and LF is 14 as B proceeds J. Similarly LF and LS for C is 8

weeks and 6 weeks. This process can be continued in a similar manner and you will reach the LF and LS for the project as obtained in Table 4.3.

Table 4.3. LF and LS for all activities related to the launch of the Training Programme

Activity (i)	Estimated duration (Fi) weeks	LFi	LSi
A.	8	8	0
B.	6	14	8
C.	2	8	6
D.	3	11	8
E.	1	11	10
F.	1	11	10
G.	2	13	11
H.	2	13	11
I.	1	14	13
J.	1	15	14

For activity I, we can say,

Where j, B are immediate

LFi = min {LFj} When J is the immediate successor of activity I.

and LSi = LFi – ti, whre ti is the estimated duration of activity I. Table 4.3 above lists the results of the backward pass for this project.

4.4.3 Total, Free and Independent Slack

If we look at the results of the forward and backward pass together as in table 4.4. below, you will come across interesting facts. For activity C, although ES is 0 weeks LS is 6 weeks showing that due to some reason if the activity is not started at the point 0 weeks; say at 1,2,3 or even 6 weeks, even the completion of the project is not delayed. On the other hand for Activity

A, ES and LS – both are 0 weeks, showing that any delay in its start will immediately affect the completion of the project. You will understand that some activities have soon looseness or cushion and some activities do not have that. This property is referred to as activity slack. Activity slacks are very useful when you attempt to prepare project schedules.

Table 4.4. Activity Slacks for all activities of Conduct of Training Programmes

Activity (i)	Estimated duration (weeks)	ESi	EFi	LSi	LFi	Total Slack
A.	8	0	8	0	8	0
B.	6	8	14	8	14	0
C	2	0	2	6	8	6
D.	3	2	5	8	11	6
E.	1	2	3	10	11	8
F.	1	2	3	10	11	8
G.	2	5	7	11	13	6
H.	2	5	7	11	13	6
I.	1	7	8	13	14	6
J.	1	14	15	14	15	0

Total Slack

Total slack for an activity is the difference between its LF and EF or that between its LS and ES. If the total slack for activity C is 6 weeks, than there can be a maximum delay of 6 weeks in the completion of activity C from its EF or a maximum delay of 4 weeks in its start from its EF, without affecting the timely completion of the project in 15 weeks. On observation of Table 4.4 together with the network diagram earlier, we realise that certain activities have a slack of 6 weeks. However this does not mean that each of the activities. For eg., B, C, G, H, I can be delayed by 6 weeks without delaying the completion of the project. Another view, you will appreciate is

that total for an activity is that if all other activities take exactly the same time for their completion as given by their respective estimated duration, than the maximum delay possible in the execution of this activity from its estimated duration as its total slack. Have you grasped the aspect. If not go through the above paragraphs once again.

4.4.4 Critical Path

If the project has to be finalised at its earliest completion, then some activities cannot be delayed at all. There are the activities with zero slack and they are called critical activities as their timely completion is critically important for the timely completion of the project. From table 4.4., we can see that Activities A, B, J are critical activities for the conduct of the training Programme. Thus the path obtained by joining all the critical activities is termed the Critical Path. You have now obtained the critical path, haven't you?

Activity 4.1

a. What do you understand are the benefits that the identification of critical path provides you with, detail?

b. Please break down any project in your work situation into different activities, identifying activity, duration, establish activity dependencies and find the critical path and earliest time of completion of the Project

Activity 4.2

Find below different activities, with predecessor activity and estimated duration in weeks. Find critical path.

Activity	Immediate Predecessor activity	Duration (weeks)
A.	--	3

B.	--	2
C.		12
D.	B	4
E.	C D	3
F.	E	2
G.	F	1
H.	E, F	3
I.	H	2
J.	H, G	1
K.	J	4
L.	J, K	2
M.	L	2
N.	L, M	2
O.	N	3
P.	O	

4.5 Human Resource Planning

You will appreciate the importance of Human Resources as a pivotal aspect in the success and implementation of any project. Project Planning determines the course of actions for achieving the goals. As a project leader, you ought to discuss the Project goals with all the stakeholders, your colleagues and other officials and extract their professional contribution.

You will appreciate that human beings are often identified along with other resources like money, material, machines etc. Normally, Human Beings

form six different units in an enterprise – individual employees, jobs and roles, dyads and groups, cohesive teams, co-operation amongst teams for common objectives and organisation. You will now understand that the challenge before the Government / Management / Local Body is to increase the effectiveness and potential of all these six units.

We will now try to understand two concepts.

(1) Resource Leveling

The human resources have to be properly planned and utilised in such a way that resources are realistic and reliable. However, when you try to draw up the EST schedule, you have to assume that all skills are available in surplus and can be made available as short notice. However you have to balance the level of resources individually and collectively. You will now understand that it is neither practical nor economical to manage fluctuating levels of resources. Thus methods of resource levelling aim to reduce peak requirements and level out period to period assignments and requirements without prolonging project duration.

(2) Resource Allocation

You will now understand from experience that certain skills are not readily available. You will try to allocate that resources such that its impact on the overall project duration is minimum. It is evident that if any vital activity is in scarcity, the time of extent of a project will increase.

Thus various methods of resource levelling like Trial and Error Method, Trigger Level method and comprehensive method are available. You may further read on these aspects if you are interested. Similarly

various methods of resource allocation are also available. Progressive scheduling method, Analogue method, Linear Programming are some of the methods.

During the phase of developing project planning and scheduling of projects, it is extremely vital to consult specialist functions, seek their approval, cater to their ego, respect their counsel and expertise and then make them responsible as the co-authors and patrons of the Project. Thus a comprehensive man management strategy with an ultimate goal of harmony their professional skills and attitudes have to be thought off. You will appreciate that many a project has succeeded or collapsed for want of proper man management and co-ordination.

4.6. Costing and Financing aspects

You will know that pricing of a project is based on a great deal of cost data and a pricing in itself is an art rather than an act of reason. The different concepts followed are being mentioned for your understanding.

(a) Order of Magnitude Cost estimates. This may be off the mark by ±30% and are used for preliminary discussions and project formulation.

(b) Preliminary feasibility Report stage estimates. The name is indicative about the estimation stage and this can be way outside the actuals by ±20%.

(c) Techno-Economic Feasibility Report State: This is a more detailed and accurate analysis and comes at a stage warranting more accurate information.

(d) Detailed Project Report Estimates: The costing will correspond to the stage of the Detailed report and will be accurate to ±15%.

(e) Control Cost Estimates

When basis documents are more or less finalised, we have more or less a priced project at hand and we ought to assure at an accuracy of 12.5%. Until the Control Cost Estimates are finalised, the previous Detailed Project Report Estimate are used for indenting / scheduling critically long delivery items of equipment and the same figures are adopted at this stage.

You will now have a better idea of Cost estimates in project don't you?

Project Financing

For Governmental projects, money will be routed directly or through local bodies. The State Government incentives may include.

(1) Contribution towards cost of feasibility and project report.

(2) Subsidy on power and like

Activity 4.3

In the governmental context, we hear about large amount of money being overspent because of unscientific cost estimates. Elaborate the reasons possible drawbacks. Suggest ways and means of rectifying the system.

Activity 4.4

In the Governmental set up, what is the procedure for project financing. What are the advantages/disadvantages over corporate or business finance? What are the methods to refine the method/procedure of Government financing for making finance timely and effective?

4.7. Summary

In this unit you understood the importance of networking, how to break project into activities, establish interdependencies between activities in a project. You also understood the need for making realistic project costs, computing activity duration and ways of arriving at it. You also understood the need to maximise efficiency to arrive at project goals and complete it. We understood the need for avoiding time overruns. You are now equipped to

appreciate the requirements of effective human resources and significance of costing and behavioural aspects in project planning and management.

4.8. Check your progress

1. Differentiate between different types of activities.
2. What is the significance of Project Scheduling and Time Analysis for Project Work?
3. Differentiate between Forward and Backward Pass.
4. Differentiate between different types of Slacks.
5. Differentiate between Resource Leveling and Resource Planning.

4.9. Bibliography and suggested Readings

1) Choudhary. S., Project Scheduling and Monitoring in Practice, 1983, New Delhi, South Asian Publishers.

2) Prassana Chandra. S., Project Management, 1982, New Delhi, Tata Mcgraw Hill, New Delhi. (1982). Ch. 1-5.

3) Martin. C.C., Project Management – How to make it work, 1973,New York, Anna Com, ch 1. pp. (1-32)

4.10. Key Words

We have introduced these keywords in the chapter. Now kindly recall what you have understand by these terms. If not please turn back

1. Networking
2. Simple Event
2. Merge
3. Burst Event
4. Dummy Activity
5. Project Scheduling
6. Forward Pass
7. Backward Pass
8. Slack
9. Critical Path
10. Human Resource Planning
11. Resource Leveling
12. Resource Allocation
13. Costing and Financing

Before we proceed :

You may have gone through this unit thoroughly. We hope you have understood the concepts introduced. You may have undertaken the activities and reflected on the probing questions made. You may also be ready to answer, "Check your progress" by now. The assignment booklet on this unit is also available, which you should attempt as it is compulsorily. The Tutor marked Assignment has to be given once you feel you are through with the topics concerning unit 6. Now you may go ahead and proceed to unit 7.

UNIT 5: PROJECT IMPLEMENTATION AND CONTROL

Objectives

At the end of this unit, you will be able to:

- Develop the process of management information system in project implementation and control.
- List the different aspects of resources management – materials – equipments – human resources – financial aspects in implementation and control.

Structure

5.1. INTRODUCTION

After having gone through the earlier 4 units, you will now recognize that a project is typically an assignment that has a specific start and specific finish. It consists of a series of discrete, finite tasks. Even in your job, you come across series of projects. Eg.:- popularising a pesticide, running a training programme, organising a medical camp, running a veterinary fare etc. You will understand that routine office functions like cleaning an office, maintaining a car, running a P.C. are repeated, continual process with no predictable starts or finish. You must be knowing that Project Management offers methods and techniques for planning, controlling and checking project activities and project itself. You will know from experience and knowledge that any delay in the implementation delays the anticipated benefits which were envisaged from the establishment of the project.

In some instances, minor delays can result in major losses. Similarly, any increase in the project cost adversely affects the feasibility of the project. In Governmental projects, due to multiple reasons / project time overrun, one a marked feature. You may have come across numerous instances, where projects have overrun resulting in huge escalation of project costs, unnecessary delay in the benefits accrued which results in total collapse of planning. Can you think of a few instances wherein such things have happened in your work situation? Who was responsible and why? How can such things be prevented in future? Please reflect.

The three preliminary phase of Project Management are planning, scheduling and implementation and control. In planning, you identify the general requirements of a project, break it down into discrete activities, sequence it and decide the interdependence estimate resources and analyse the critical path. In scheduling (which overlaps planning phase) you give actual calendar dates to the activities and determine the overall project dates. You calculate the Late Start and Late Finish dates for each activity.

However, the implementation and control phase starts once the project is underway. You will employ a few techniques to achieve optimum usage of resources, monitor progress and cost, forecast completion dates, arrive at overall project costs and ensure that the critical activities are completed in time.

Being Project Managers, you will realise the importance of timely information. The information system has to be developed in such a way that the needs at the above mentioned stages are adequately taken care of. The social cost of delay, you will appreciate can be of a very high order and therefore the need for timely completion of the project is reinforced.

5.2. MANAGEMENT INFORMATION SYSTEM FOR PROJECT

The objectives of a Project Management Information System (PMIS) are:

1. Report/Record the relevant information about the status of various component of the project in such a manner that it highlights critical activities.

2. Highlight directions from the plan and to indicate the effects of such deviations on the overall status and completion of the project.

3. To develop the basis of updating the project schedule whenever necessary.

4. To indicate corrective action that needs to be taken in respect of critical activities.

5. To consider activities that are not given to plan, with a view to review and bring it back to rail.

6. To develop a basis for the evaluation of the performance of the functions of various persons participating in the project by verifying with the budget, plan / scheduling.

In designing Project Management Information System the following have to be identified clearly.

1. The objective of each report
2. The distribution chart of activities
3. Periodicity of reports
4. Responsibility profile of various personnel evolved in the project involved in a time bound manner
5. Timing of reports
6. The sources identified for information.

5.2.1 Network Analysis as a Tool in PMIS

What you should understand at this stage is that the network used in PMIS to reasonably represent performance sequence of a project. It has been proved scientifically that the total project duration derived by breaking project down into discrete activities and basing such activity time estimate on the experience and past data has been valid and useful.

5.2.2. Cost Control System

The effectiveness of the project Cost Control System is largely dependent upon the following:

(a) Making realistic estimate of cost at preliminary stage

(b) Evolving an effective cost reporting system

(c) Providing for contingencies at the limited stages

(d) Timely Identification and implementation of effective cost control

However the above alone will not suffice. Identification of problem areas and timely implementation of effective remedial measures will effectively help check project costs. Periodical project reviews / costs analysis based on collection and compilation of reliable Information will also help the cause.

5.2.3. Need for Integrated PMIS

The Integrated approach to PMIS allows total project information to be structured in to a number of data sets, which are integrated by software. Some of the relevant data sets, you will appreciate are:

1) Vendor
2) Material
3) Cost
4) Resources
5) Rates
6) Government Orders etc.

Integration of these independent data sets through various processing activities enables control of projects. By entering these, anticipated outcomes can be compared with on-site outcomes. Efficient attention and retention of information, you will appreciate are the cornerstones for record management applications. You will also recognise that each project, has to, on the basis of nature of Project requirements, design its own information monitoring system.

5.2.4. Monitoring and Reporting

You will understand the need for monitoring and reporting and by extension the need for preparing monitoring reports. The different Project Monitoring Reports are related with the following. The list is only indicative.

i) Status reports
ii) Value reports
iii) Construction reports
iv) Reports on Contracts
v) Infrastructure

In Management Reports, the reporting system assumes a comprehensive system of Performance budgeting and activity planning. You will understand that this requires that the activities need to be broken functionally according to current and planned organisation structure and based on sub-functions. Each report should cover the sub-function. The types of reports may be related to:

a) Finance
b) Personnel
c) Construction
d) Material and
e) Technical Services

You will also appreciate that different categories of reports can be generated under each category based on project needs and monitoring. Can you think of different categories of reports that can be generated in your job situation? If so list down.

5.3. Material and Equipment Management

Materials and equipment form the core of certain projects. These form the core of certain projects which involve construction, fabrication etc.

Since these are extremely costly, these must be ordered and delivered in a sequence that facilitates their creation and commissioning.

Project Implementation can go out of control if the materials and equipment don't arrive in time. Can you think of any such project based on your experience. If they arrive in a haphazard manner or if they get damaged during transportation you have problems at hand. Problems arise if there is faulty creation, erection or fabrication. In case of specialised equipment (eg. Medical, Veterinary Projects) or in case of damages, replacements can be difficult. You will know that the Government have developed procedures that consider such eventualities. Effective Management of materials and equipment play a vital role in enhancing our project monitoring skills.

A large number of projects get delayed in execution because the required materials and equipment do not arrive in time upsetting the tempo, momentum which in turn affects project costs, commissioning and performance. You will know that these kinds of delays lead to interpersonal problems and conflicts. You will now recognise the importance of instituting fail safe procedures to avoid pitfalls and institutional checks and balances (in specified formats at specified intervals) to ensure the project completes in time.

Activity 5.1

a. In your work situation, envisage a procedure for monitoring projects for cost and implementation control on a project stage basis.

b. In your work situation, what are the different kinds of reports you have to maintain with regard to the execution of: (a) routine projects (b) special projects and (c) projects with high investment.

c. In your work situation, what is the procedure for contracting materials and equipment. Is the procedure perfect, if not what can be done under the circumstances.

d. In your job, what is the role of project cost-estimate in defining the total scope of any project you may conceptualise or evolve

5.4. Human Aspects of Implementation

You must have understood that man, material, resources and organisation are the different functions of production. However, the human aspect of implementation is pervasive and is highlighted. You may be able to carry out an in-depth analysis of the Project and understand the contours of the Project. You may draw up comprehensive milestone and other select aspects. These things apart, you need to ensure that projects are implemented. Within schedules and budgets with a view to maximise performance parameters. Since different classes and categories of people will be working on any given project, we need to ensure that the project personnel are fine turned to work as a team. Herein the concept of '<u>DRIVER</u>' needs to run forced. It spans across six strategies.

D - Direct Individuals / Team
R - Reinforcement of project goals
I - Information
V - Vitualize and realise team work
E - Empowerment
R - Risk taking and Creativity

5.4.1. Directing Individuals and Team

You will agree that projects cannot be implemented by oneself. We need collaborations and supporters. You need to evaluate the strength, weaknesses, prides, prejudices and personality traits. However, knowing our biases and strengths are also a must. Every individual, you will appreciate, must be encouraged to perform in a way that suits his/her style, so that s/he can, deliver the goods.

5.4.2. Reinforcing commitment and excitement

You will understand that Man is a unique living being and you should act in a way that appeals to the mind and tickle the heart. You must create conditions during project execution that facilitate this. This can be done by creating a few challenging jobs, and assign them in a way that they realise the happiness. You also have to increase visibility of the sub-ordinates by increasing their contact with subordinates. You need to have effective

communication, proper motivation and delegation of authority. All of you know that if you follow this approach you could reinforce commitment and excitement.

5.4.3. Informing everyone on the Project

There should be effective communication to ensure that you are heard, others are heard and not to stop with that both sides are heard. In effect you should be concerned or empathetic about the views of the listener. All barriers in communication must be avoided and there should be corrective communication, than passive or aggressive. Now are you convinced?

5.4.4. Vitalizing Project Terms

This should ensure that conflicts and disagreement in projects are encouraged to middle level and integrative solutions. Conflicts can occur at various stages regarding various aspects. In the project formulation phase, schedules, costs, priorities, staffing can become issues of conflict. In early project build up phase, conflicts may arise out of scheduling, priorities, staffing, technical issues. In the main project implementation phase, conflicts may revolve around scheduling, forecasting, etc. At the end of the project phase, conflicts may arise on account of costs, schedule etc. You will now agree that successful projects starts with higher level of conflict in contrast with unsuccessful projects.

5.4.5. Empowering Project Personnel

You will agree that power bestows ability to make things happen. Power can be positional. Power arises out of legitimacy, ability to view and or cover. It can also be personnel power arising out of referent power or power derived out of expertise. You should be in a position to delegate power, make demands, review demands, review targets, modify that and redelegate power. Thus you will now recognise the need for delegation.

5.4.6. Risk taking and Creativity

Any project or activity demands innovation and every manager / official has to innovate if the project has to be competitively expected. You

have to evolve your mindset to work coherently as a team, communicate assertively, listen to others, be flexible and permit you subordinates and colleagues to look at problems differently.

5.4.7. Feedback System

You have to ensure that you institutionalise a proper feedback which will help you identify areas of weakness, ignorance and make everyone aware of issues. Feed back promotes 'anticipating' problems by giving early warning of possible threats. Thus you should be able to forecast reasonably accurately. You have to use the latest available information and make forecasts more promising. You have to ensure that proactive actions are taken so that corrections are introduced before the damage occurs.

5.5. Financial Aspects in Implementation and Control

You will realise that a good accounting system is a pre-requisite for the success of any organised activity. In Governmental projects, you need to stress on the concept of control of costs at each and every stage. You need to stick to the time factor, make contracts / bids in advance, minimise changes in scope of the project and avoid delays.

As a Project Manager, you have to recognise the importance of having a proper system of accounting and budgeting and using the approach of performance analysis for not only the cost control but also overall monitoring of the project progress.

Activity 5.2

a. As a Project Manager, what are the human elements you would consider while executing any project. Have you tried out this with effect?

b. Do you feel that the output of any project can be influenced by motivating human beings. Elaborate with an example from your work situation.

c. What are the Financial / Accounting aspects you will consider while implementing and supervising the project. Suggest practical steps based on your work evaluation.

5.6. Summary

In this unit, you studied the process of Management Information System in Project Implementation and Control. You also understood the different aspects of resource management. You recognise the need for Materials and Equipments Management, human aspects of implementation and Financial Aspects in Implementation and Control.

5.7. Check your progress

1. What is the significance of Management Information System in Projects?

2. What is the significance of Cost Control System in Project Management?

3. What is the significance of Monitoring and Reporting in Project Management?

4. Outline the importance of material and equipment management in Project Management?

5. Identify the importance of empowering people and maintaining an effective feedback system?

5.8. Bibliography and suggested readings

1) Choudhary. S., Project Scheduling and Monitoring in Practice, 1983, New Delhi, South Asian Publishers.

2) Prassana Chandra. S., Project Management, 1982, New Delhi, Tata Mcgraw Hill, New Delhi. (1982). Ch. 1-5.

3) Martin. C.C., Project Management – How to make it work, 1973,New York, Anna Com, ch 1. pp. (1-32)

5.9. Keywords

We have introduced these keywords in the chapter. Now kindly recall what you have understand by these terms. If not please turn back

1. Management Information System
2. Cost Control System
3. Monitoring and reporting
4. Material and Equipment Management
5. Feedback System
6. Implementation and Control

BEFORE WE PROCEED

You may have gone through this unit thoroughly. We hope you have understood the concepts introduced. You may have undertaken the activities and reflected on the probing questions made. You may also be ready to answer, “Check your progress” by now. The assignment booklet on this unit is also available, which you should attempt as it is compulsorily. The Tutor marked Assignment has to be given once you feel you are through with the topics concerning unit 6. Now you may go ahead and proceed to unit 8.

CERTIFICATE PROGRAMME
IN
PROJECT MANAGEMENT
(For Implementation Officers of Development Departments)
2003

MODULE-III
MONITORING AND EVALUATION

INSTITUTE OF MANAGEMENT IN GOVERNMENT
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OVERVIEW

MONITORING AND EVALUATION

- **This module has two units. The first unit (unit 6) provides you an understanding of basic aspects of project monitoring. It helps you understand how to development indicators for monitoring and how to cope up with resistance to monitoring. The unit concludes by discussing the practical problems in monitoring.**

- **The second unit deals with project evaluation. This unit covers topics like basic understanding of evaluation, different kinds of evaluation, planning an evaluation, the different steps in conducting an evaluation, developing evaluation questions and the collection analysis and reporting of evaluation data.**

UNIT 6: MONITORING

Objectives

At the end of this unit, you will be able to:

- Establish the purpose of monitoring
- Develop the indicators for monitoring
- Cope up with the resistance to project monitoring
- Identify the practical problems in monitoring

Structure

6.1 Introduction

This Unit will help you understanding the concept of Project Monitoring. You will be able to recognise the need for monitoring and how to develop indicators for project monitoring. The unit will also expose you the practical problems in monitoring and how to resist with these problems in your real work life.

6.2 Definition and Purpose of Monitoring

Definition

You will first establish, clearly and simply, what project monitoring and what it is for. You may define monitoring as a process of measuring, recording, collecting, processing and communicating information to assist project management decision making. You may also understand monitoring system as on information system for management decision making.

You may understand that an effective monitoring system focuses on the following three aspects.

* **Project Operation**: This stage checks the different tasks performed requiring or intermittently which are essential for the proper functioning of a project: This includes the monitoring of operation and maintenance of entire resources in the organisation.

* Project Performance**: This refers to the close examination of the achievement of project results targeted. Monitoring of these aspects in the early stages of project operation would enable you to initiate corrective action, it may, required at the very beginning. This will ensure economic use of time and other resources.**

* Project Impact**: This relates to the effect of project operators to the community, especially, the target group as a whole. It is also concerned with changes in the local environment and economy that arise from project operation and performance.**

Purpose

As you are aware, there are various agencies who are interested and curios to assess the stage of progress of the project you are implementing. The funding agency which extended the resources will be interested to know that the fund has been utilised for the purpose it is envisaged and the work is progressing in the right direction and within the budgeted and time limit. The Government, the general public etc will also be interested in assessing the progress as the resources of the society are very dear to them.

Technically the purpose of project monitoring is, by the provision of relevant information, to indicate to those concerned whether project objectives are being achieved and, more practically, whether the operation, performance and impact of a project is "on course". You will appreciate that this process is for assessing whether tasks are being carried out according to schedule; whether inputs and outputs are achieving design or "benchmark" levels; whether project impact is in accord with project objectives or whether these objectives need adjusting in the light of experience. Monitored information which indicates inadequate operation, shortfall in performances and discrepancy between prescribed defective or predicted impact and those achieved, provides the basic for discussion and action by project management to modify inadequate objectives to give the project more valid direction and/or to rectify project deficiencies and so bring the project back "on course".

6.3 Participatory Monitoring

By now, you might have gone through the basic aspect and purpose of monitoring which is conventional in nature. Now you are introduced to a new concept of monitoring which ensures the participation of local people, development agencies and policy makers in measuring the progress of the efforts invested. If you follow this type of monitoring you will experience that this will result in to new lessons and increased accountability. But remember that it is a challenging process for all concerned since it encourages people to examine their assumptions about what constitute progress, and to face up to the contradictions and conflicts that can emerge.

By now, you might have recognised that Participatory Monitoring and Evaluation has emerged because of the infelt limitations of the conventional

approach. It is attracting interest from many quarters since it offers new ways of assessing and learning from change that are none inclusive, and more in tune with the views and aspirations of those most directly affected. It also provides an opportunity for development organisations to focus better on their ultimate goal of improving poor people's live.

The participatory monitoring and evaluation approaches in several important ways.

	Conventional M & E	**Participatory M & E**
Process planning and Management	By Senior Managers or outside experts	Local People, Project staff, Managers and other stakeholders, often helped by facilitator
Beneficiaries Role	Provide information only	Design and adapt the methodology, collect and analyse data, share findings and link them to action
Tool for measuring success	Externally defined. Mainly quantitative indicators	Internally defined indicators – including more qualitative judgement
Approach	Predetermined	Adaptive

Activity 6.1

Consider a project which you have already implemented and monitored. What changes do you conceive if you propose to monitor the same project as per PM & E. Give your answers in the space given below.

You might have recognise now that Participatory Monitoring and Evaluation (PME) is not just a matter of using participatory techniques within a conventional monitoring and evaluation setting. It is about radically thinking who initiates and undertakes the process, and also learns or benefits from the findings.

Early examples of Participatory Monitoring and Evaluation date (PME) back to the 1970's. These are many different forms depending on who is participating, at what stage they are involved and the precise objectives. Community versed versions, where local people are the primary focus, sit alongside other forms geared to engaging lower level staff in assessing the effectiveness of their organisation, and working out how it can be improved. You will, now agree that, Participatory Monitoring and Evaluation is based on four broad principles.

* **Participation** – which means opening up the design of the process to include those most directly affected, and agreeing to analyse data together.

* The inclusiveness of PM&E requires **negotiation** to reach agreement about what will be monitored and evaluated, how and when data will be collected and analysed, what the data actually means, and how findings will be shared, and action taken;

* This leads to '**learning'** which becomes the basis for subsequent improvement and corrective action;

* Since the number, role and skills of stakeholders, the external environment, and other factors change over time, **flexibility** is essential.

You may understand that a wide range of methods and tools have been developed to carry out PM&E. They all seek to compare the situation before and after a particular project, of set of events. They include home made questionnaires and scientific measurement techniques adopted for use by local people, as well as more innovative methods such as oral histories, and the use of photos, video and theatre.

 Activity 6.2

List out the important principles based on which PM&E is carried out. Analyse them based on your work context (give the answers in the space provided below).

6.4 Monitoring Indicators

You might have understood that the main feature of monitoring activity is the verification and/or measurement of the operations, performance and impact of a project. This invariably demands the specification of variables or indicators of project inputs, outputs, effects and external factors or constraints. The degree of difficulty in developing this 'objectively verifiable indicators vary from project to project. For example in an agricultural project assessing the delivery of fertilizers, flow rate of irrigation water, maintenance of pumping sets, yield and production level etc are relatively easy. But sometimes it is not possible to observe and measure project results directly and, in these cases, indirect or proxy indicators have to be used. For example, the effectiveness of a child health programme may best be measured directly by mortality rates – but these are difficult to determine over short periods. Hence, a proxy indicator, such as the percentage of births which are attended by trained health personnel and the availability and frequency of health facilities may be used as proxy indicators. You may note that whenever you use proxy indicators, it is essential to validate hypothesized linkage or

relationships between directly and indirectly observable variables.

 Activity 6.3

Please consider a project which you propose to undertake in your department. Please list out objectives, activities and indicators to measure the objectives and activities. (Give your answers in the space given below)

6.5. Resistance to Project Monitoring

You have, by now, realised that designing and setting up a monitoring system seems relatively straight-forward. You have to take decisions regarding what has to be monitored, the frequency of monitoring, the staffing required for effective monitoring at a prescribed frequency, the recording, data processing and communication procedures; it is a matter of organisation. The monitoring process should be formalised in a set of instructions which should prescribe what should be monitored, how often and by whom. It should also prescribe the recording procedure and how the information recorded be processed in order to give it maximum operational significance.

You will agree that monitoring is essential for effective management. But, in practice, project monitoring systems are frequently found to be poorly operated. It is often found that there is an unstated opposition to monitoring because, in exposing the deficiencies of operation and performance, it reveals on weakness of management. These can sometimes be linked with individuals managing a project and it is human nature to oppose this possibility.

You might have experienced that this human dimension is not the only resistance to an effective system. A large number of monitoring systems and related activities have been created and operated with little or no participation. This problem can be tackled, by permitting all stake holders to design and formulate a monitoring as we have discussed in PM&E system.

6.6. Practical problems in Monitoring

You will agree that in a well designed, properly functioning project, monitoring system should provide the right information, in the right form, at the right time, to the right place, and with the right frequency. You may note that theoretically this is correct. It assumes that project design accords with project objectives and that management is willing and able to act on monitored information. But the real situation is entirely different from the theoretical conception. You might have noted that in a number of monitoring and evaluation systems.

Commonly associated with poor system design (producing more data than are needed or that can be processed), inadequate staffing of Monitoring and Evaluation activities, inability to initiate base line studies early enough (these strictly should be initiated prior to project implementation), substantial delays in processing data and a consequent delay in data analysis and presentation of results. You will also note, interestingly, that, though all the foregoing deficiencies are avoided and an effective Monitoring and Evaluation System provides the required results, they often remain unused by project staff.

Now let us analyse why these problems? Past of the exploration of these problems is that the introduction of project monitoring has been too burried and/or too ambitious particularly where this relates to the monitoring of project impact.

It may also be noted that, in spite of the conventional wisdom that monitoring and evaluation is always good, for all projects – a role of caution is essential the costs of monitoring and evaluating current activities can be high – as much as around 4.5 per cent of total cost. Though the experience has shown that monitoring system can be valuable aid to efficient project management, it is difficult to quantify the gain from this and to balance these against the costs of monitoring.

 Activity 6.4

Illustrate from your own experience, the practical problems in undertaking an effective monitoring system. (Give your answers in the space given below)

6.7. Checklist for a monitoring and Evaluation System

It is suggested that you may pose the following questions and answer them satisfactorily, before a monitoring system is put into operation on any project.

* What are the purposes of the monitoring and evaluation activity?
* What type of information should be collected?
* How will the information be collected?
* What methods of analysis be used?

* To whom will monitoring/evaluation findings be presented? How will they be used?
* How will the monitoring/evaluation system be organised? Which agency, institute or organisational unit will be responsible?
* How many and what type of staff will be involved?
* What is the cost of monitoring and evaluation? How much of the total project cost should be allocated to Monitoring and Evaluation activities?
* How should monitoring and evaluation activities be financed?
* What are the problems and lessons likely to be learned from implementation of the monitoring and evaluation system?

You will realise that a local approach like this will certainly rule out blanket recommendations to monitor all projects. It will increase the chance of selecting the right choice for monitoring and avoiding monitoring system that are likely to be costly failures. It is also likely to establish the merits of sound monitoring system.

6.8 Check your Progress

1. Prepare a log frame for a project which you propose to undertake / have already undertaken. Clearly list out the objectives verifiable indicators and the means of verification for each activity included in the logframe.
2. An effective monitoring system will results in to timely completion of the project

6.9 Bibliography and Suggested Readings

1. Monitoring systems for agricultural and rural development projects, FAO Economic and Social development Paper, Volume I, 1983.
2. Prasanna Chandra, Project Planning, Analysis, Selection, implementation, Tata McGraw Hill, New Delhi.

3. Mathoor, P.K., Project Formulation in Developing Countries, Macmillan, India.

6.10 Key Words

We have introduced these keywords in the chapter. Now kindly recall what you have understand by these terms. If not please turn back.

1. Project Operation
2. Project Performance
3. Project Impact
4. Participatory Monitoring
5. Monitoring Indicators

BEFORE WE PROCEED

You may have gone through this unit thoroughly. We hope you have understood the concepts introduced. You may have undertaken the activities and reflected on the probing questions made. You may also be ready to answer, "Check your progress" by now. The assignment booklet on this unit is also available, which you should attempt as it is compulsorily. The Tutor marked Assignment has to be given once you feel you are through with the topics concerning unit 6. Now you may go ahead and proceed to unit 7.

Module 3

UNIT 7 : PROJECT EVALUATION

Objectives

At the end of this Unit, you will be able to:

* understand the process of evaluation
* plan and conduct an evaluation
* understand different types of evaluation
* collect and analyse data for evaluation
* report the information to interested audiences

Structure

7.1 INTRODUCTION

The Unit 6 of this module has given you a clear idea about the various aspects of monitoring. We are sure that now you are confident in undertaking monitoring of an ongoing project in your organisation. You may also be interested in ascertaining whether the project has achieved the objective planned and the impact of the project to the addressed audience and to the society as a whole. Hope, this unit will help you to have deeper understanding of these aspects.

7.2 What is Evaluation

You may be interested to know that the notion of evaluation has been around a long time – in fact, the Chinese had a large functional evaluation system in place for their civil servants as long ago as 2000 BC. The idea of evaluation has varied definitions. You may note that Evaluation means different things to different people and take place in different contexts. Evaluation can be synonymous with tests, descriptions, documentation or management. However, a more competitive definition is offered by the joint committee on standards for Educational Evaluation (1981). According to the committee evaluation means 'systematic investigation of the worth or merit of an object'

7.3 Different kinds of Evaluation

Generally you may have to undertake two types of evaluation;

(1) programme evaluation and
(2) project evaluation.

Now, let us define what is meant by a programme and a project. A programme is a co-ordinated approach to exploring a specific area related to the mission of strengthening a sector service or discipline. A project, on the other hand, is a particular investigative or developmental activity funded by a

programme. You know that a programme consist of a collection of projects that seek to meet a defined set of goals and objectives.

 **Activity 7.1**

Distinguish project from a programme. Give some examples (Give your answers in the space given below):

Now let us turn to the terms programme and project evaluation. A **programme** evaluation determines the value of this collection of projects. It looks across projects, examining the utility of activities and strategies employed, in light of the initial project goal. It is carried out to the completion after the projects have become fully operational and adequate time has passed for expected outcomes to be achieved. Frequently, the initiation of a programme evaluation is deferred until 3 to 5 years after programme initiation.

Project evaluation, on the other hand focuses an individual project funded under the umbrella of the programme. The evaluation provides information to improve the project as it develops and progresses. Information is collected to determine whether it is proceeding as planned; whether it is meeting its stated programme goals and objectives according to the proposed timeline. It is based on this evaluation you have to decide whether the particular project merit, continuing, ideally in a project evaluation, evaluation design and data collection begin soon after the project is funded.

 Activity 7.2

Distinguish between programme evaluation and project evaluation. (Give your answers in the space given below):

7.4 Planning Evaluation

You may plan an evaluation to assess understanding of a project goals, objectives, strategies and timeliness. However, you will notice that planning evaluation is not commonly carried out as like other components of project management. Most project proposals mention only formative and summative evaluation, defining these as activities to be performed once a project has been designed, written up and funded. The evaluator enters the scene after the project has been put in place.

The planning evaluation will help you with an understanding of the overall strategies of executing the project. The product of the planning evaluation is a rich context laden description of a project, including its major goals and objectives, activities, participants and other major stakeholders, resources, timeliness; locate, and interested accomplishments. The planning evaluation will also help you describing the status of key outcome indicators prior to the project to serve as a baseline for measuring success.

When you conduct a planning evaluation, you should be present when the project is in its developmental phase. The planning evaluation is typically designed to address the following questions:

* Why was the project developed?

What is the problem or need it is attempting to address?

* Who are the stakeholders?
* What do the stakeholders want to know?
* What are the strategies that will address is the intervention? What are the expected outcome?
* Where will the programme be located?
* How much does it cost? What human, material and institutional resources are needed? How much is needed for evaluation?
* What are the measurable outcomes which the project wants to achieve? What is the expected impact of the project in the short run? the longer run?

These questions can become a check list to determine it all relevant elements are included in the description of the programme or project. These questions also provide the basis for the formative and summative evaluative enquiries about the project.

7.4.1 Formative Evaluation

You may understand formative evaluation as the activity to assess ongoing project activities. Formative evaluation begins at project start-up and continues through out the life of the project. Its purpose is to provide information to improve the project. It is done at several points in the developmental life of a project. You may be interested to know the observation of Bob Stake, an evaluation theorist, on formative and summative evaluation. He explained it as "when the cook taste the soup, that's formative; when the guests taste the soup, that's summative".

7.4.2 Implementation Evaluation

The purpose of implementation evaluation, as you know, is to assess whether the project is being conducted as planned. It may occur several times during the life of project. Before you can evaluate

the outcomes of a project, you must make sure the project is really operating, and if it is operating, according to its plan or description.

7.4.3 Progress Evaluation

As a key personnel in the present implementation team, you will be interested in ascertaining the progress of the project goal targeted. The evaluation undertaken to measure the progress of the project goal is referred to as progress evaluation. Progress evaluation is also formative. It involves collecting information to learn whether or not the benchmarks of progress were attained and to point out unexpected developments. This type of evaluation collects information to determine what the impact of the activities and strategies is on the participants at various stages of intervention.

7.4.4 Summative Evaluation

While going through the topics on various kinds of evaluation, you might be confused as to how evaluation could be distinguished from monitoring. The stages of evaluation, we have discussed so far are to see if all the essential elements of the project are in place. Monitoring, on the other hand, is done by donor agency for determining progress and compliance on a contract or grant for the project. Still the conduct of internal monitoring can also be treated as implementation or progress evaluation.

The summative evaluation is to assess the overall success of the project. It is important for you to note that summative evaluation is undertaken after ultimate modifications and changes have been made, after the project is stabilized and after the impact of the project has had a chance to be realized. Summative evaluation answers the following basic questions:

* Was the project successful? What were its strengths and weaknesses?
* To what extent did the project or programme meet the overall goals?
* Did the target group benefit from the project? In what ways?
* What components were the most effective?
* Were the results worth the project's cost?
* Is this project replicable and transportable?

The summative evaluation collects information about processes and outcomes. This evaluation is an external appraisal of worth, value or merit.

Your report on evaluation inform decision makers about whether the activities and strategies were successful in helping the project and/or its participants reach their goals. This may also describes the extent to which goals was attained.

You should also keep in mind that unanticipated outcomes could also be resulted while conducting a summative evaluation. These are findings that come to light during data collection or data analysis that were never anticipated when the study was first designed. You may also note that evaluation is not a single or isolated event, it is a process. When done well, evaluation can help inform the managers of the project as it progresses, can serve to clarity goals and objectives, and can provide important information on what is, or is not, working, and why.

7.5 Steps in conducting an Evaluation

Usually in an evaluation process, formative or summative, the following steps are involved.

* Develop evaluation questions
* Match questions with appropriate information gathering techniques
* Collect data
* Analyze data
* Provide information to interested audience

You may agree that all the above 5 phases are critical for provision of useful information. If the collected information is not prescribed as valuable or useful (the wrong questions were asked) or the information is not credible or feasible (the wrong techniques were used), or the report is presented too late or is written inappropriately, then the evaluation will not contribute to the decision making process.

7.6 Developing Evaluation Questions

The development of an appropriate evaluation questions, as you are aware, is very important and consists of several steps. The important among them are:

* Clarify goals and objectives of the Evaluation

* Identify and involve key stakeholders and audiences
* Describe the intervention to be evaluated
* Formulate potential evaluation questions of interest to all stakeholders and audiences
* Determine resource available
* Prioritize and eliminate questions

You may think that this sound trivial, but at the outset of an evaluation it is important to describe the project or intervention briefly and clarity goals and objectives of the evaluation. Getting started right can have a major impact on the progress of an evaluation all along the way.

7.7 Collection of data for Evaluation

Once you design an appropriate information gathering technique, the information must be gathered. Both technical and political issues must be addressed, before you commence the collection of data, the necessary clearances and permission must be obtained. You should also consider the needs of the participants before you start the data collection work. Being part of an evaluation can be very threatening to participants. They must be told clearly and honestly why the data are being collected and the use to which the results will be put. On most survey tape studies, assurances are given and honoured that no personal repercussions will result from information presented to the evaluator and, if at all possible, individuals and their interests will not be publicly associated in any report.

You should also ensure that the data collection are carefully trained and supervised, especially when multiple data collections are used. They must be trained to see things in the same way, to ask the same questions, to use the same prompts. You may also conduct periodic checks to ensure that data collectors do not ` drift ' – away from the prescribed procedures over time. You should collect the data with little description as possible. This means, you must be sensitive to the schedules of the people or the project, as well as the schedule of the evaluation itself. It also may mean changing approaches as situations come up.

7.8 Analysis of collected data

Once you have completed the collection of data, they must be analyzed and interpreted. The steps to be followed in preparing the data for analysis and interpretation differ, depending on the type of data. The interpretation of qualitative data may in some cases be limited to descriptive narrative, but other qualitative data may lend themselves to systematic analyses through the use of qualitative approaches such as thematic decoding or content analysis. This type of analysis include several steps:

* Check the raw data and prepare data for analysis
* Conduct initial analysis based on the evaluation plan
* Conduct additional analyses based on the initial results
* Integrate and synthesize findings

7.9 Communication of Evaluation Results

You will agree that the final stage of project evaluation is reporting what has been found. While reporting can be thought of as simply creating a written document, successful reporting rests on giving careful thought to the creation and presentation of the information.

The communication of evaluation findings involves several steps:

* Provide information to the targeted audiences
* Customize reports and other presentations to make them compelling
* Deliver reports and other presentations in time to be useful

7.10 Summary

You have so far gone through in detail the various aspects of evaluation and the importance of evaluation in assessing the impact the implemented project in the development process. It also ensures that the project moves in the right direction through the application of formative evaluation. Hope, you will apply these evaluation techniques while you undertake projects for implementation in

your department, through which you ensure the effective utilisation of the scarce resources of the nation.

7.11 Check Your Progress

1. Distinguish project monitoring from project evaluation.

2. How does project evaluation helps in ascertaining whether the project has achieved its objects? Also state how does project evaluation acts as a corrective measure for future operations?

7.12 Bibliography

1. Monitoring systems for agricultural and rural development projects, FAO Economic and Social development Paper, Volume I, 1983.
2. Prasanna Chandra, Project Planning, Analysis, Selection, implementation, Tata McGraw Hill, New Delhi.
3. Mathoor, P.K., Project Formulation in Developing Countries, Macmillan, India.

7.13 Key words

We have introduced these keywords in the chapter. Now kindly recall what you have understand by these terms. If not please turn back

1. Formative Evaluation
2. Implementation Evaluation
3. Progress Evaluation
4. Summative Evaluation

BEFORE WE PROCEED

You may have gone through this unit thoroughly. We hope you have understood the concepts introduced. You may have undertaken the activities and reflected on the probing questions made. You may also be ready to answer, "Check your progress" by now. The assignment booklet on this unit is also available, which you should attempt as it is compulsorily. The Tutor marked Assignment has to be given once you feel you are through with the topics concerning unit 6. Now you may go ahead and proceed to unit 8.

CERTIFICATE PROGRAMME
IN
PROJECT MANAGEMENT
(For Implementation Officers of Development Departments)
2003

MODULE 4

PREPARATION OF A DETAILED PROJECT REPORT

INSTITUTE OF MANAGEMENT IN GOVERNMENT
THIRUVANANTHAPURAM

KERALA – 695033

MODULE: 4

PREPARATION OF DETAILED PROJECT

By now you should have gone through the three modules viz., Project Formation and Appraisal (Module I), Project Planning, Implementation and Control (Module II) and Monitory and Evaluation (Module III). If you have followed the Modules closely and working through the check your progress, activities and assignments, we presume that you are ready for an intense but enjoyable activity which would measure your understanding of the course and its objectives.

- Here you have to prepare a detailed project proposal, based on the approved synopsis.
- The project proposal has to measure up to a desirable standard and it would determine your grade for certification purpose.

MODULE 4

UNIT 8: GUIDELINES FOR PROJECT PREPARATION

Objectives

At the end of this unit, you will be able to:

- Undertake the preparation of project proposal.
- Develop a complete project proposal for submission

Structure

Activity 8.1

GUIDELINES FOR PROJECT PREPARATION

8.1 Introduction

By now, you must have gone through Modules 1, 2 and 3 and we presume that you would have understood the basic concepts of project management: various appraisal techniques and requirements of a project (*Module-1*); Project planning, implementation and control (*Module-2*); and project monitoring and evaluation (*Module-3*). We also presume that you are now in a position to develop a project proposal related to your job situation. Since our training programme is action oriented, like any other training programme, we expect you to identify a suitable topic and prepare a project proposal at the end of this unit. To facilitate you, we have listed a few selected topics related to your job situation. We have also given detailed guidelines for the preparation of your project proposal. Please do not hesitate to contact us in case of any assistance you need in developing the project proposal.

8.2 Suggested Topics

The different types of projects that you may like to consider, have been classified under the following categories:

- Projects related to rural development/agriculture/animal husbandry/fisheries/sericulture.
- Projects related to industry/small scale industry/micro enterprise/textiles/information technology.
- Projects related to health/health management/veterinary management.
- Projects related to social culture/development/welfare/development schemes of government of India and state governments.
- Projects related to providing services/facilities like housing, sanitation, water supply etc.
- Any other project based on felt needs.

8.3 Steps Involved

8.3.1 How should I prepare a Synopsis?: After you have selected a topic, you need to prepare a synopsis. The following points should be covered while preparing the synopsis.

1. Statement of the problem/felt need
2. Objectives/utility to the public with justifications
3. Feasibility aspects to be considered
4. Planning and scheduling aspects
5. Implementation and control aspects
6. Monitoring and evaluation

While preparing the synopsis you could consult a project guide. The project guide is basically, your supervisor who could be your mentor as discussed in the next section.

8.3.2 Who could be your Project Guide?: You could select a person as your guide or mentor who is a:

1. Supervisor in the relevant discipline with professional qualification.
2. Faculty member in the ATI/SIRD/Institutes of Public/Local Administration.

You are requested to send your project synopsis and bio-data (duly signed by the guide) to the Project Director, Distance Education Cell. The earliest you could submit your project synopsis is within 2 months and maximum 9 months from the commencement of the programme.

8.3.3 Where should I submit my proposal for Approval?

After finalizing the proposal and selecting the supervisor, you may send the project proposal as mentioned above. The DEC shall issue a written intimation regarding the approval/non-approval of the proposal to you within 4 weeks on receipt of the project proposal.

8.3.4 How should I formulate the Project Report?

Given below are a few guidelines that you may follow for formulating your proposal

(i) The report has to be formulated on the basis of the approved synopsis, detailing all aspects mentioned in the synopsis. You may also ensure that wherever it is relevant, all concepts you have understood in the earlier modules are considered.

(ii) The length of the report may be about 20 to 30 double spaced typed pages not exceeding approximately 10,000 words (excluding appendixes and exhibits). However, this may be considered as a guideline and minor variations are accepted.

(iii) The project report must adequately focus on the objectives stated above with a clear understanding on the utility of the project to the job situation.

(iv) The project report should also contain the following:

- The project *proforma*
- Synopsis.
- Certificate of *bonafide* by the Supervisor/Guide

8.3.5 Where should I submit the Project Report?

You may prepare two copies of the report, of which one is to be submitted to the Project Director, DEC and the other may be retained by you.

8.3.6 In case of doubt whom should I contact?

You may direct enquiry on project/project approval to the Project Director, DEC, Institute of Management in Government, Vikas Bhavan, P.O, Trivandrum – 33, Kerala State. We hope you would go through the summary of this unit, wherein we have provided a detailed check list for preparing the project proposal and for the Project Report, before you undertake this major but educative task.

8.4 Project Evaluation

The submitted projects will be evaluated by an examiner appointed by the DEC. You will be intimated about your performance within 8 weeks. Certificates will be issued to that effect within 12 weeks from the submission of the Project Report by Registered Post.

8.5 Summary

We have summarised the major points covered in this module under two heads:

(i) Checklist for preparing the project synopsis.

(ii) Checklist for the project report which are given below.

(i) Checklist for Preparing the Project Synopsis

- Send one copy of the synopsis and retain another with you.
- In all correspondence to the Distance Education Cell (DEC), clearly quote your name, designation, Department and the roll number as the case may be allotted by the DEC.
- Please ensure the following while submitting the proposal:

Proforma for approval of project proposal duly filled and attested by the Participant and the Supervisor.

- Bio-data of the project supervisor duly signed.
- Synopsis of the project not exceeding 2 to 3 double spaced typed pages.
- The synopsis of the project proposal should conform with the guidelines provided.

(ii) Checklist for Preparing the Project Report

- The project report should be submitted in A4 size (29x20cms) typed in double space in a bound volume (See 8.4.4 also).
- The bound volume should include the following:
  1. Approved project proposal *proforma*
  2. Synopsis
  3. Certificate of *Bonafide*

You should submit a certificate to the effect that the work is an original one and has not been submitted to their controlling department/government or to any other funding agency, for fulfilment of their official requirement or for a course of study. The above certificate should be countersigned by the Supervisor. No project report will be considered in the absence of the above certificate.

- One typed copy of the report is to be submitted by registered insured post to the Project Director, DEC, Institute of Management in Government, Trivandrum-33. Kindly superscribe on the top of the envelope "Project Report/DEC".
- You should keep one copy of the Project Report with you as the submitted copy shall not be returned.

Activity 8.1

We hope that you are now ready to formulate a suitable project proposal. You may start working on it. We look forward to receiving it. Good Luck!

* * *

Annexure:

***PROFORMA* FOR APPROVAL OF PROJECT REPORT**

DISTANCE EDUCATION CELL

INSTITUTE OF MANAGEMENT IN GOVERNMENT
VIKAS BHAVAN (P.O.) THIRUVANANTHAPURAM – 33

Roll No.

a). Name and Address of the Participant :

b). Title of the Project :

c). Area Selected :

d). Name & Address of the Supervisor :

Signature of the Student **Signature of the Supervisor**

Place :

Date :

N.B.: Please enclose Synopsis of the Project and Bio-data of the Supervisor.

Synopsis	Supervisor
Approved	**Approved**
Not approved	**Not approved**

Signature

Project Director (DEC)

Date:

Comments/Suggestions for improvement