**CHAPTER TWO - THE PROJECT CYCLE**

**2.1. Meaning and definition of project life cycle**

There tends to be a natural sequence in the way projects are planned and carried out. Before any project is actually realized it goes through various planning phases. Therefore, the different stages through which project planning proceeds from inception to implementation are often called “the project cycle”. It is the project’s life cycle through which it advances from infancy to maturity. The main features of this process are ***information gathering, analysis, and decision making.***

The stages or phases through which the project passes are necessary for its completion and they constitute a specific sequence that is cyclical in nature identified as ***project life cycle***. Dividing project life cycle into phases helps in better management and control of a project.

Therefore, **projects cycle** is a self – renewing cycle in that new projects may grow out of the old ones in a continuous process and self – sustaining cycle of activity.

A project cycle is a sequence of events, which a project follows. These events, stages or phases can be divided into several equally valid ways, depending on the executing agency or parties involved.

**2.2. Project life cycle models**

There are different project life cycle models which differ in their perspective, emphasis and level of detail. The commonly known models include

* World Bank project life cycle or sometimes called Baum Cycle (Baum, 1982) consisting of identification, preparation, appraisal, implementation and evaluation phases.
* UNIDO project life cycle(Behrens and Hawranek, 1991) consisting of pre-investment, investment and operational phases, and although, the aforementioned models use different terminologies and divide the project life cycle into different number of phases. The very essence of project life cycle is that projects are first identified in the form of ideas followed by different types of studies to determine their feasibility, execution of the feasible one/s, use of the outputs of the project to deliver goods and services (operating and maintain project output) and assessment of whether the projects support the organization in achieving its goals.

**2.2. 1. World Bank Project Cycle (The Baum Cycle)**

The first basic model of a project cycle is that of **Baum** (1970), which has been adopted by the World Bank and initially recognized four main stages, namely.

**1.** Identification

**2.** Preparation

**3.** Appraisal and Selection

**4.** Implementation

At a later stage (in 1978) the author has added an additional stage called **“Evaluation**” which usually closes the cycle as it gives rise to the identification of new projects. Thus making the stages 5 in number.

Thus, each of Baum’s main stages are discussed briefly below

**2.2.1 Identification**

The first stage in the cycle is to find potential projects. Some sources of projects are given here.

* Some may be “**resource based**” and stem from the opportunity to make profitable use of available resources.
* Some projects may be “**market based**” arising from an identified demand in home or overseas markets.
* Others may be “**need-based**” where the purpose is to try to make available to all people in an area of minimal amounts of certain basic material requirements and services.
* Well – informed technical specialists and local leaders are also common sources of projects. Technical specialists will have identified many areas where they feel new investment might be profitable, while local leaders may have suggestion about where investment might be carried out.
* Ideas for new projects also come from proposals to extend existing programs.

In general, most projects start as an elementary idea. Eventually, some simple ideas are elaborated into a form to which the title “project” can be formally applied.

**2.2.2 Preparation (pre – feasibility or feasibility studies)**

Once projects have been identified, there begins a process of progressively more detailed preparation and analysis of project plans. At this stage the project is being seriously considered as a definite investment action.

Project preparation (project formulation) covers the establishment of technical, economic and financial feasibility. Decisions have to be made on the scope of the project, location and site, soil and hydrological requirements, project size (farm or factory size) etc.

Project design and formulation is an area in which local and international consultants are very active especially for big project that cover large areas and have big budgets.

**2.2.3 Appraisal**

After a project has been prepared, it is generally appropriate for a critical reviewor an independent appraisal to be conducted. This provides an opportunity to re-examine every aspect of the project plan to assess whether the proposal is appropriate and sound before large sums are committed.

Appraisals should cover at least seven aspects of a project, each of which must have been given special consideration during the project preparation phase:

**a) Technical** – here the appraisals concentrate in verifying whether what is proposed will work in the way suggested or not.

**b) Financial** – the appraisals try to see if the requirements for money needed by the project have been calculated property, their sources are all identified, and reasonable plans for their repayment are made where necessary.

**c) Commercial** – the way the necessary inputs for the project are conceived to be supplied is examined and the arrangements for the disposal of the products are verified.

**d) Incentive** – the appraisals see to it whether things are arranged in such a way that all those whose participation is required will find it in their interest to take part in the project, at least to the extent envisaged in the plan.

**e) Economic –** the appraisal here tries to see whether what is proposed is good from the viewpoint of the national economic development interest when all project effects (positive and negative) are taken into account and check if all are correctly valued.

**f) Managerial** – this aspect of the appraisal examines if the capacity exists for operating the project and see if those responsible ones can operate it satisfactorily.

Moreover, it tries to see if the responsible are given sufficient power and scope to do what is required.

**g) Organizational** – the appraisal examines the project if it is organized internally and externally into units, contract policy institution, etc so as to allow the proposals to be carried out properly and to allow for change as the project develops.

These issues are the subjects of specialized appraisal report. And on the basis of this report, financial decisions are made – whether to go ahead with the project or not. In practice, there can be quite a sequence of project selection decisions. Following appraisal, some projects may be discarded.

If the project involves loan finance, the lender will almost certainly wish to carry out his own appraisal before completing negotiations with the borrower. Comments made at the appraisal stage frequently give rise to alterations in the project plan (project proposal).

**2.2.4 Implementation**

The objective of any effort in project planning and analysis clearly is to have a project that can be implemented to the benefit of the society. Thus, implementation is perhaps the most important part of the project cycle.

In this stage, funds are actually disbursed to get the project started and keep running. A major priority during this stage is to ensure that the project is carried out in the way and within the period that was planned. Problems frequently occur when the economic and financial environment at implementation differs from the situation expected during appraisal.

Frequently original proposals are modified, though usually only with difficulty, because of the need to get agreement between the parties involved.

It is during implementation that many of the real problems of projects are first identified. Because of this, the **feedback** effect on the discovery and design of new projects and the deficiencies in the capabilities of the project actor can be revealed.

Therefore, to allow the management to become aware of the difficulties that might arise, **recording, monitoring** and **progress reporting** are important activities during the implementation stage. There are some aspects of implementation that are of particular relevance to project planning and analysis.

i. The first is that the better and more realistic a project plan is, the more likely it is that the plan can be carried out and the expected benefit realized. This emphasizes once again the need for careful attention to each aspect of project planning and analysis.

ii. The second is that project implementation must be flexible. Circumstances will change and project managers must be able to respond intelligently to these changes.

The common ones are technical changes (soils, water logging, nitrogen application) price changes economic changes, political changes and these will alter the ways in which it should be implemented.

**2.2.5 Evaluation**

The final phase in the project cycle is evaluation. Once a project has been carried out, it is often useful, (though not always done) to look back over what took place, to compare actual progress with the plans, and to judge whether the decisions and actions taken were responsible and useful.

The extent to which the objectives of a project are being realized provides the primary criterion for an evaluation. The analyst looks systematically at the elements of success and failure in the project experience to learn how better to plan for the future.

Evaluation is not limited only to completed projects. It is a most important managerial tool in ongoing projects and rather formalized evaluation may take place at several times in the life of a project.

Evaluation may be undertaken when the project is in trouble, as the first step in a re-planning effort. Careful evaluation should precede any effort to plan follow – up projects. And, finally, evaluation should be undertaken when a project is terminated or is well into routine operation.

Many different people may do **evaluation**.

- Project management will be continuously evaluating its experience as implementation proceeds.

- Thesponsoring agency, perhaps the operating ministry, the planning agency or an external assistance agency – may undertake evaluation.

- In large and innovative projects, the project’s administrative structure may provide a separate evaluation unitresponsible for monitoring the projects implementation and for bringing problems to the attention of the projects’ management.

Evaluation can help not only in the management of the project after the initial phase, but will also help in the planning of future projects.

Experience with one project can give rise to new ideas for extension of the project, repetition, the need for “vertically” associated projects, which supply, inputs to or process products from this project, and other ideas which become the seeds or new project proposals.

**2.3 UNIDO – Project Cycle**

UNIDO has established a project cycle comprising three distinct phases):

 The pre investment phase,

 Investment phase and

 Operational phase phases.

Actually, this division is artificial but it helps to understand that project planning is a continuous process over time. Throughout the project cycle the primary preoccupation of the analyst is to consider alternatives, evaluate them, and to make decisions on which of them should be advanced to the next stage. Project planning is an uninterrupted process, we shall discuss the investigation work to be carried out at each stage of planning starting with project identification. The stage of project implementation will not be covered thoroughly: we only touch upon it in passing.

**1.** **THE PRE INVESTMENT PHASE**

The pre investment phase comprises several stages: identification of investment opportunities (opportunity studies), project preparation (pre-feasibility and feasibility studies) and project appraisal (preparation project investment decisions report).

**i.** **Project Identification**

Project identification amounts to finding projects which could contribute towards achieving specified development objectives. In principle, especially in developing countries like Ethiopia, project identification should be an integral part of the macro-planning exercise with sectoral information and strategies as the main source of project ideas. In practice, however, projects are not always derived from national and sectoral plans; they originate from multiple sources such as investment promotion agencies, private consultants and private investors. Irrespective of their origin project ideas should, in general, aim at: overcoming constraints to the development effort, be they material, human or institutional constraints; or, meeting unsatisfied needs and demand for goods and services. Constraints, needs and demand should be interpreted broadly to include, for example, foreign exchange constraints that might necessitate projects for import substitution or export promotion.

**a)** ***Opportunity studies:***

The identification of investment opportunities is the starting – point in a series of investment – related activities, when potential investors (private or public) are interested in obtaining information on newly identified viable investment opportunities.

***Where does Projects Originate?*** The variety of projects makes it impossible to prepare an exhaustive list of sources from where project ideas emanate; much depends on the experience, and even imagination, of those entrusted with project creation. In general, we can distinguish two levels where project ideas are born: the macro-level and the micro-level. At the macro-level, project ideas emerge from:

i. National, sectoral, or regional plans and strategies supplemented by special studies, often called opportunity studies, conducted with the explicit aim of translating national and sectoral programs into specific projects;

ii. constraints in the development process due to shortages of essential infrastructure facilities, problems in the balance of payments, etc.;

iii. A government’s decision to correct social and regional inequalities or to satisfy basic needs of the people through development projects;

iv. a possible external threat that necessitates projects aiming at achieving, for example, self-sufficiency in basic materials, energy, transportation, etc.;

v. Unusual events such as droughts, floods, earth-quakes, hostilities, etc.; and

vi. A government’s decision to create locally project implementing capacity in such areas as construction etc.

At the macro-level, project ideas can also originate from multilateral or bilateral development agencies and as a result of regional or international agreements in which a country participates.

At the micro-level, the variety of sources is equally broad. Project ideas emanate from:

i. The identification of unsatisfied demand or needs;

ii. The existence of unused or underutilized natural or human resources and the perception of opportunities for their efficient use;

iii. The need to remove shortages in essential materials, services or facilities that constrain the development effort;

iv. The initiative of private or public enterprises in response to incentives provided by the government;

v. The necessity to complement or expand investments previously undertaken; and

vi. The desire of local groups or organizations to enhance their economic independence and improve their welfare.

Project proposals could also originate from foreign firms either in response to government investment incentives or, because they consider local production a better way to secure a substantial share of the domestic market for their products.

Opportunity studies are rather sketchy in nature and rely more on aggregate estimates rather than on detailed analysis. Cost data are usually taken from comparable existing projects and not from quotations of sources such as suppliers. Depending on the prevailing situation, either a general opportunity **study (sector approach) or a specific opportunity study (enterprise approach) or both** will have to be undertaken.

**General opportunity studies\***

General opportunity study may be divided into three categories:

 Area studies to identify opportunities in a given area

 Industry studies to identify opportunities in a delimited industrial branch

 Resource-based studies to reveal opportunities based on the utilization of natural resources

**Specific project opportunity studies\***

A specific project opportunity study may be defined as the transformation of a project idea into a broad investment proposition. This study usually springs from general opportunity studies, in the form of products with the potential for domestic manufacture. The purpose of Specific project opportunity studies is to arrive at a quick and inexpensive determination of the salient facts of an investment possibility.

**b)** **Preliminary Screening:**Once some project ideas have been put forward, the first step is ***to*** select one or more of them as potentially viable. This calls for a quick preliminary screening by experienced professionals who could also modify some of the proposals. At this stage the screening criteria are vague and rough, becoming specific and refined as project planning advances. During preliminary selection the analyst should eliminate project proposals that are technically unsound and risky; have no market for the output; have inadequate supply of inputs; are very costly in relation to benefits; assume overambitious sales and profitability; etc.

Obviously, since the criteria are imprecise much depends on the experience and impartiality of the professionals applying them. It is, however, necessary to conduct this screening, even with indistinct criteria, in order to reduce to a manageable number the project alternatives to which more work and time will be devoted. After all, project planning is a process of elimination, i.e. elimination of inferior alternatives.

**c)** **Pre-feasibility Studies:**Following the preliminary screening, promising project options should be investigated in a systematic manner. This requires the preparation of brief reports that indicate in sufficient, but not painstaking, detail the project versions that are still promising and suggest which ones should be eliminated. Sophisticated analysis, of the technical, financial, economic social and institutional aspects of the project are postponed to a later stage before assigning larger funds for such a study, since feasibility studies are costly and time-consuming.

However, the reports should indicate which of these aspects deserve particular attention during the subsequent step. Reports of this type are often called pre-feasibility or pre-investment.

The objectives of the pre- feasibility study are to determine whether:

 All possible project alternatives have been examined

 The project idea justifies a detailed analysis by a feasibility study

 Any aspects of the project are critical to the project that may require in depth investigation through functional studies

 Environmental situation at the planned site and the potential impact of the projected, production process are in line with national standards.

**Content of the Pre-feasibility Study**: To enable the relevant authorities to decide on the merits of various project options, the pre-feasibility study should, although briefly, discuss:

i. The structure and objectives of the project;

ii. The nature and size of the demand for the output or the needs that it would satisfy, together with the foreseen beneficiary groups;

iii. The availability of the most important materials and human inputs;

iv. Basic alternative technologies available and their merits and weaknesses;

v. Approximate investment and operation costs as well as expected revenues and other benefits;

vi. Rough estimates of financial and economic returns;

vii. Any major factor that is likely to have an important effect on the project; and

viii. What further information on the technical, financial, economic or institutional aspects of the project should be acquired through special studies and surveys?

By the end of the identification stage we should know:

a) Whether further detailed work is justified;

b) What major issues have been identified, what project alternatives have been considered and which of them have been rejected; and

c) A rough estimate of costs.

***Functional (support) studies***

Functional or support studies cover specific aspects of a project and are required as Prerequisites for, or in support of, pre-feasibility studies and feasibility studies, especially for large-scale investment proposals. Examples of such studies include the following:

 Market studies of products to be manufactured, including demand projections in the market and the anticipated penetration

 Raw material and factory supplies, covering current and projected availability and price trends

 Laboratory and pilot-plant tests, done to the extent necessary to determine raw material suitability

 Location studies

 Environmental impact assessment

 Economies of scale studies

 Equipment selection studies

When a basic input may be a decisive factor in determining the viability of a project, the support study is carried out before commissioning a pre-feasibility study. In most cases the results of a pre feasibility study, when undertaken prior or together with a feasibility study form an integral part of the latter and lessen its burden and cost.

**ii.** **Project Preparation – Feasibility Studies**

A feasibility study should provide all data necessary for an investment decision. The commercial, technical, financial, economic and environment prerequisites for an investment project should therefore be defined and critically examined on the basis of alternative solutions already reviewed in the pre – feasibility study.

If the pre-feasibility study indicates that the project is, prima facie, promising and further work is justified, the project enters the stage of preparation. The project, already defined in a sketchy form, is now being advanced to a level at which it can be appraised thoroughly before a decision is taken on whether to implement it. The analysis of the project’s marketing, technical, financial, economic and institutional aspects should be comprehensive enough to allow the policy makers to decide on the future of the project with confidence. Project preparation takes the form of a feasibility study conducted by the agency sponsoring the project or by consultants. At this point it would be helpful to address a question often raised, i.e. what is the difference between a pre- feasibility and a feasibility study? The answer is simple: they differ only with respect to the amount of work needed to decide if a project is viable. The table of contents is the same in both; it is the details and the sophistication that vary.

**How Much Preparation:** At this point we can ask how far in detail should project preparation advance before the project is ready for appraisal. This is a practical question and the answer depends upon the magnitude and the characteristics of the project. Projects that commit relatively small amounts of investment funds do not deserve painstaking and expensive preparation. After all, the risks taken in implementing small projects are small; of course, what is small is a practical question. Furthermore, projects that:

 (i) Consist of a large number of small, dispersed components (e.g. hundreds of primary schools or village water supplies) or,

 (ii) Depend heavily on community participation, need not be prepared in detail before an investment decision is made. Often, those responsible for project planning complain that too much information is asked from them and that they have to spend unnecessarily long time in project preparation. In most cases their complaints are not justified. They should realize that resources are scarce and mistakes expensive. Furthermore, time spent on project preparation is not lost time. There is a trade-off between project preparation and implementation. The better a project is prepared the easier and faster its implementation and the lower the probability of cost overruns.

The need for professional project preparation does not imply that this stage should include engineering design that precedes implementation and which provides more accurate cost estimates. However, it is essential that the project is prepared to a level that its characteristics are clearly presented, its objectives and beneficiaries accurately defined and its merits and shortcomings thoroughly discussed. It is only on such a sound base that apprized judgment can be formed by the authorities responsible for investment decisions. Obviously, when it is expected that the project will be financed entirely or partly by multilateral or bilateral aid agencies, their specific requirements and standards of project preparation should be taken into account.

Before proceeding to the stage of project appraisal we should mention that pre-feasibility and feasibility studies become much easier to conduct when precise and comprehensive terms of reference are prepared for these studies. Issued to a working group of local experts or to outside consultants, the terms of reference should make clear that the project should be researched carefully and all its aspects illuminated. Those responsible for planning the project should be asked to provide, as a minimum, in their report the information mentioned in these Guidelines and to follow the methodology adopted here.

**iii.** **Appraisal and Investment Decision**

Up to the completion of preparation, the project has been nursed by the sponsoring agency; now it changes hands. The project proposal in the form of a feasibility study is submitted to the investment decision makers for a broad and impartial appraisal. Appraisal is the comprehensive and systematic assessment of all aspects of the proposed project. After appraising the project carefully, appraisers will decide whether it will be implemented or not, with or without minor modifications.

**Criteria and Questions**: At the early stages of the project cycle we might say that the evaluation criteria are mainly, but not exclusively, technical and micro-economic in character. It is at this stage, and before an investment commitment is made, that the project should be reviewed again to confirm that it accords with the broad development objectives, or criteria set by donors, or bankers or other parties who have a stake in the project. The framework within which the project is appraised is broad and multi-faceted.

An investment decision should be based on careful consideration of macro-development and project perspectives to ensure that the project represents a high-priority use of the investors’ resources. During appraisal, it should be verified that the project, in combination with other policies, contributes the maximum possible towards achieving certain development objectives.

To this end the following questions could be answered to the viability of a project:

i. Does the project belong to a sector where the country needs additional investment?

ii. Does the project meet urgent needs of the sector, that is, does it reflect sound sub-sector allocations;

iii. Does the project represent the least-cost alternative in achieving sector and sub-sector objectives?

iv. Is the project of optimum size, too big or too small?

v. Is the timing of the project right or the proposed investment is premature;

vi. Is the project well designed with reasonably accurate cost and benefit estimates or are there still many loose ends; and

vii. If the proposed project is not implemented, what other opportunities exist to use the same resources (physical, human, and financial).

How smoothly the appraisal will proceed depends on how well the project has been prepared. Even this indicative list of questions shows that a meaningful appraisal is possible only if the project has been carefully and professionally researched and planned.

**Appraisal Perspectives:** Considered always within the broad development framework, the project, during appraisal, is viewed from different perspectives.

1) Technical: On the technical side, we must be sure that alternatives have been diligently considered and that the selected one provides sound solutions.

2) Commercial: Appraisal of the commercial aspect amounts to verifying that the markets for the output and the inputs of the project have been thoroughly investigated, including the channels of distribution and supply.

3) Financial: From the financial viewpoint, appraisal aims at ensuring that the necessary funds to implement and operate the project will be available timely and whether the project is financially viable.

4) Economic: The economic appraisal of the project relates closely to its technical aspect. Of course, during project preparation cost-benefit analysis should ensure that the technological solutions adopted are those that best fit the conditions prevailing in the country and are not simply the most advanced ones. However, the appraisal stage is where the final review and evaluation of these matters are made.

5) Managerial: From the managerial angle we should check whether the proposed top management and key staff are adequate for the prompt implementation and smooth operation of the project. Finally, the organizational structure of the project is reviewed to ensure that it provides for: sufficient degree of autonomy; functional allocation of responsibilities and decision making; and a general administrative mechanism conducive to the efficient operation of the project.

To the appraisal of these aspects of the project we can add the review of, and a judgment about its non-economic dimensions, e.g. dependency for key inputs and outputs on unreliable foreign markets. The nature and range of the non-economic aspects vary from project to project and relate to the stated objectives of the development strategy and the conditions in the country.

**2.** **THE INVESTMENT PHASE**

***The Project in Motion***

The investment phase constitutes negotiation and contracting, engineering design, construction and preproduction marketing.

The next stage in the project is the actual implementation of the project, followed by operation. Implementation begins immediately after the final decision on the project ends when it starts rendering the benefits envisaged. While in earlier stages of project planning there was more thinking and less action, in this stage the combination switches in favor of the latter: more action and less thinking is needed. It is the time when the conclusions reached and the decisions made are put into action. Detailed engineering design comprises preparatory work for site preparation, the final selection of construction planning and time – scheduling of factory construction, as well as the preparation of flow charts, scale drawing and a wide variety of layouts.

During the stage of tendering and evaluation of bids it is especially important to receive comprehensive tenders for goods and services for the project from a sufficiently large number of national and international supplies of proven efficiency and with good delivery capacity.

Negotiations and contracting are concerned with the legal obligations arising from the acquisition of technology the construction of buildings, the purchase and installation of machinery and equipment and financing. This stage covers the signing of contracts between the investor or entrepreneur, on the one hand, and the financing institutions, consultants, architects and suppliers of raw materials and required inputs, on the other.

The construction stage involves site preparation, construction of buildings and other civil works, together with the erection and installation of equipment in accordance with proper programming and scheduling.

The personnel recruitment and training stage, which should proceed simultaneously with the construction stage, may prove very crucial for the expected growth of productivity and efficiency in plant operations.

Plant commissioning and start up is usually a brief but technically critical span in project implementation. It links the proceeding construction phase and the following operational (production) phase. These are complicated and interrelated activities that should be programmed carefully and executed diligently if delays and problems are to be avoided, or at least minimized.

In general, it is to be noted that in the pre – investment phase, the quality and dependability of the project are more important than the time factor, while in the investment phase, the time factor is more critical in order to keep the project within the forecast made in the feasibility study.

The phase is divided into the following stages:

1) Establishing the legal, financial and organizational basis for the implementation of the project.

2) Technology acquisition and transfer, including basic engineering.

3) Detailed engineering design and contracting, including tendering, evaluation of bids and negotiations. Detailed engineering design will include site preparation final selection of technology construction planning and time scheduling as well as flow charts and scale drawings preparation. Negotiations are concerned with legal obligations arising from the acquisition of technology, construction of buildings, purchase and installation of machinery, and financing

4) Acquisition of land construction work and installation*.* This involves site preparation construction of buildings and other civil works, together with erection and installation of equipment .

5) Pre-production marketing, including the securing of supplies and setting up of the administration of the firm. This and secures critical supplies prepares the market for the new product.

6) Recruitment and training of personnel. This stage proceeds simultaneously with the construction stage to ensure timely commissioning and the expected growth in productivity and efficiency in plant operations.

7) Plant commissioning and start-up.It is usually a brief but technically critical span in project implementation. It links the preceding construction phase with the operational (production) phase. The success achieved in this stage demonstrates the effectiveness of implementation planning and execution of the project and has a bearing on the future performance of the project.

The need to pay particular attention to project implementation can not be overemphasized. No matter how carefully a project has been prepared and evaluated, the expected benefits are realized only when it is properly implemented; it is not project reports but studiously executed projects that deliver the envisaged benefits. Of course, it is easier to execute a well prepared project but sound preparation is not a substitute for careful programming and close control during implementation. This is all the more so because most projects face problems during implementation and some of them can not be identified in advance; they emerge as we proceed in the execution of the project. Some implementation problems are the result of general factors such as changes in the economic and political situation of the country or the world market while others are project specific.

**3) OPERATIONAL PHASE**

The operational phase includes commissioning and starts up of production, replacement and rehabilitation, and expansion and innovation.

This is the production phase that commences after commissioning and start-up. The resultant challenges of this phase are viewed from the short-term perspective and long-term perspective. In the shot-term challenges may arise with regard to application of production techniques operation of equipment, inadequate labor productivity due to a lack of qualified staff and labor etc. Most of these problems have their origin in the implementation phase.

The long-term view relate to the chosen strategies and the associated production and marketing costs as well as sales revenues. These have a direct relationship on the projections made during the pre-investment phase. If such strategies and projection prove faulty any remedial measure will not only prove difficult but may be too expensive.