Unit-III

Project formulation, Analysis of market demand, Financial and profitability analysis and Technical analysis. Project financing in India.

Project Formulation

Till recently, in our country much attention was not paid towards preparation of preliminary feasibility and detailed project reports. Most of the important projects were designed with the help of the foreign collaborators in one form or other. If the project work is done intelligently it will throw up technological research problems the solutions to which would promote accelerated development.

In the formulation of any project an important phase is pre-investment phase. The phase consists of the period from the conception of an idea until the final analysis of the necessary elements in order to decide whether the project should be executed or not.

Elements of Project Formulation Techniques:

Project formulation is by itself an analytical management aid. Project development throws up data in a constant stream. The project formulation team has to evaluate alternative approaches and to arrive at the most effective decision either on its own or with the help of the project sponsoring body.

The aim always is to achieve the project objectives with the minimum expenditure of resources.

(https://www.slideshare.net/RevathyRajasekaran/project-formulation-1)

Project formulation divides the process of project development into **seven distinct and sequential stages**. The stages area

1. Feasibility analysis
48236032. Techno-economic analysis
48236033. Project design and network analysis
48236034. Input analysis
48236035. Financial analysis
48236036. Social cost-benefit analysis and
48236037. Project appraisal

1. Feasibility analysis:-

The purpose of analysis is to examine the desirability of investing in pre-investment studies. For this purpose examine the project idea in the light of internal and external constraints. Internal constraints are the limitations of the project sponsoring and project implementation body. External constraints are due to the characteristics of the environments.

When a project idea is taken up for development, three situations arise, appear to be a) feasible b) not feasible c)

available data may not be adequate for arriving at a reasonable decision which requires additional investment and time.

2. Techno-economic analysis:

It is concerned with the identification of the project demand potential and the selection of the optional technology which can be used to achieve the project objectives. Project demand is a critical determinant of the optional size of the project. Project size in its own turn determines the technology which will be appropriate to a particular project situation.

Technology includes methodology or the process where technical operations are not involved. Market analysis has to be followed by a detailed search for alternative technologies which can be used to achieve the project objectives.

Techno-economic analysis gives to the project individuality and sets the stage for detailed design development.

3. Project design and Network Analysis: – Project design defines the individual activities and their inter-relationship with each other. This is most inter-relationship with each other. This is most conveniently expressed in the form of a network diagram.

This is concerned with the development of the detailed work plan of the project and its time profile.

4. Input Analysis: –It concerns with what the project will consume both during the construction phase as also the normalisation phase.

The objective is to identify and quantify the project inputs and to assess the feasibility of a sustained supply of these inputs all through the effective life span of the project. Inputs are material and human resources.

Input analysis considers the recurring as well as non-recurring resources requirements of the project and evaluates the feasibility of the project from the point of view of the availability of these resources.

5. Financial analysis:-It concerns itself with the estimation of the project costs, project operating costs and project funds requirements. It also involves the appraisal of financial characteristics of the project, so as to establish the merits end demerits of the project as compared to other investment opportunities. A large number of financial analytical aids developed are: present worth technique, the cost volume-profit analysis and ratio analysis. The uncertainties have to be taken into account.

6.Cost Benefit analysis:- The cost-benefit analysis takes into
account not only the direct costs and benefits which will accrue

to the project implementing body but also the total costs which all entities concerned with the project will have to bear and the benefits which will be enjoyed by all such entities.

Idea is to evaluate the project in terms of absolute costs and benefits rather than in terms of apparent costs and benefits.

7. Pre-investment Appraisal: - It is the process of consolidating the above i.e., feasibility analysis, techno-economic analysis, Project design and network analysis, input analysis, financial analysis and social cost-benefit analysis so as to give the investment proposition a final and formed shape.

The sum total of the pre-investment appraisal is to present the project idea in a form in which the project sponsoring body the project implementing body and the outside agencies can take an investment decision regarding the proposals.

1.0 Analysis of market Demand:

Market and demand analysis is concerned with two broad issues

1. What is likely aggregate demand for the product / service?
2. What share of the market will the proposed project enjoy?

Factors to be considered for getting the answers for the above:

1. Patterns of consumption growth
2. Income and price elasticity of demand
3. Composition of the market
4. Nature of competition
5. Availability of substitutes
6. Distribution channels

3.1 Steps in market analysis:

1. Situation analysis and specification of objectives:
   - ❖ Talk to customers, competitors, middlemen and others
   - ❖ For carrying out market survey spell out the objectives clearly
   - ❖ Questionnaire can help gathering the information in a way relevant for forecasting the demand
2. Collection of secondary inputs:
   - ❖ Secondary information is the one which was gathered in some other context and is available readily for the present consideration
   - ❖ Primary information is the one, which is collected for the first time to meet the specific purpose on hand.
   - ❖ Secondary information forms the basis and starting point for the market and demand analysis.
   - ❖ General sources of secondary information:

Censes of India, National sample survey reports, Plan reports, India year book, Statistical year book, Economic survey, Guide lines to industries, Annual survey of industries, Publications of advertising agencies, Monthly bulletin of RBI, etc.
Annual reports of association of Indian automobile manufacturers
Journals of industry associations.

- ❖ The relevance, reliability, accuracy are to be carefully studied in the information available in the secondary information.

3. Conduct of market survey:

- ❖ Secondary information may not provide a comprehensive basis often thus necessitating gathering primary information through market survey.
- ❖ Census survey: Entire population is covered. It is suitable for intermediate goods, investment goods - where the number is less.
- ❖ Sample survey: A sample of the population is contacted or observed. Inferences are made on the basis of the information gathered from the sample. Ex:
  - o Total demand & rate of growth of the demand,
  - o Demand in different segments of the market,
  - o Income & price elasticity of the demand,
  - o Motives for buying, purchasing plan and intentions,
  - o Satisfaction with existing goods,
  - o Unsatisfied needs,
  - o Attitudes towards various products,
  - o Distribution trade practices and preferences,
  - o Socio-economic characteristics of buyers

1.1.1 Steps in conducting Sample survey:

i. Define the target population
ii. Select the sampling scheme and sample size
iii. Develop the questionnaire
iv. Recruit and train the field investigators
v. Obtain the information as per questionnaire from the sample respondents
vi. Scrutinize the information gathered
vii. Analyze and interpret the information

1.1.2 The results of the information can be vitiated by

1. Non representative ness of the sample
2. Questions lack precision and accuracy
3. Failure of respondents to comprehend the questions
4. Deliberate distortions in the answers given by the respondents

5. Inept handling of the interviews
6. Cheating on the part of the investigators
7. Incorrect and inappropriate analysis and interpretation of data

1.1.3 Problems:

1. Heterogeneity of the country
2. Multiplicity of the languages
3. Design of questionnaire

4. Characterization of the market:

❖ The market may be described as follows on the basis of the information gathered in the survey

1. Effective demand in the past and present:

Apparent consumption = Production + Imports – Exports – Change in stock level

Consumption of the product by producers and effect of abnormal factors are to be adjusted.

In a competitive market effective demand and apparent consumption are equal.

2. Breakdown of the demand:

Aggregate demand may be broken down into demand for different segments of the market

Market segments may be defined by

1. Nature of the product
2. Consumer group
3. Geographical division

Segmental information is helpful because the nature of the demand tends to vary from one segment to the other

3. Price:

1. Manufacturer's price quoted FOB(Free On Board)
2. CIF price (Cost, Insurance, Freight)
3. Landed price for imported goods
4. Average whole sale price

4. Methods of distribution and sales promotion

Distribution varies in the nature of the product

Different distribution channels may be used for a given product

Advertisement, discounts, Gifts scheme vary from product to product

5. Consumers:

Demographic & Sociological		Attitudinal
Age	Profession	Preferences
Sex	Residence	Intentions
Income	Social background	Habits
		Attitudes
		Responses

6. Supplies and Competition:

Existing sources - Indigenous / imported

Location, present production Capacity
Planned expansion, capacity utilization level
Bottlenecks in production, Cost structures,
Quantity, Quality, Promotional efforts

7. Government policy:

Production targets in National plan
Import & export trade constraints
Import duties and incentives
Excise duties and sales tax , industrial licensing
Credit controls, preferential purchasing
Financial regulations , subsidies , Penalties

5. Demand Forecasting:
   - Quantitative methods:
     1. Jury of executives opinion method
     2. Delphi method: involves converting the views of group experts , who do not interact face to face , into a forecast through an iterative process.
   - Time series method:
     1. Trend projection method
     2. Exponential smoothening method
     3. Moving averages method
   - Casual models:

     These are based on the cause-effect relationship.
     1. Chain ratio method – Applies a series of factors for developing a forecast.
     2. Consumption method
        - Income elasticity of demand
        - Price elasticity of demand
     3. End use method – suitable for intermediate products
     4. Leading indicator method – Observed changes in leading indicators are used to predict the changes in lagging variables.
     5. Econometric method – Estimating quantitative relationship derived from economic theory.

6. Market planning:

   1. Pricing 2. Distribution 3. Promotion 4. Service

FINANCIAL PROFITABILITY:- The estimates of financial profitability nay be prepared along the following lines:

A. Cost of production

B. Total administrative expenses

C. Total sales expenses

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oyalty and know-how payable

otal cost of production
(A+B+C+D)
F. Expected sales
ross profit before interest
otal financial expenses
epreciation
perating profit (G–H–I)
ther income
reliminary expenses written off
rofit/loss before taxation (J+K–L)
rovision for taxation
rofit after tax (M–N)
Less Dividend on
–Preference
capital
–Equity capital
P. Retained profit
Q. Net cash accrual (P+I+L)

A. Cost of Production: – This represents the cost of materials, labour, utilities and factory overheads as calculated earlier.

B. Total administrative expenses: – This consists of (i) Administrative salaries, (ii) remuneration to directors, (iii) Professional fees, (iv) light, postage, telegrams, and telephones, and office supplies (stationery, printing, etc.) (v) Insurance and taxes on office property, and (vi) miscellaneous items.

C. Total sales expenses:– The expenses included under this head are:
i) commission payable to dealers, (ii) packing and forwarding charges, iii) salary of sales staff (which sway be increased at 5 percent per annum), (iv) sales promotion and advertising expenses, and (v) other miscellaneous expenses.

The selling expenses depend mainly on the nature of industry and the kind of competitive conditions that prevail. Typically, selling expenses vary between 5 and 10 percent of sales. The experience of similar firms in the industry may be used as basic guideline.

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oyalty and know-how payable: - Royalty and know-how payable annually may be shown here. The royalty rate is usually 2-5 percent of sales. Further, royalty is payable often for a limited number of years, say 5 to 10 years.

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otal cost of Production: - This is simply the sum of cost of production, total administrative expenses, total sales expenses, and royalty and know-how payable.

F. Expected sales: - The figures of expected sales are drawn from the estimates of sales and production prepared earlier in the financial analysis and projection exercise.

Typically, the starting point for profitability is the forecast for
sales revenues. In estimating sales revenues, the following considerations should be borne in mind:

1. It is not advisable to assume a high capacity utilization level in the first year of operation. Even if the technology is simple and the company may not find technical problems in achieving a high rate of capacity utilization in the first year itself, there are likely to be other constraints like raw material shortage, limited power, marketing problems, etc. It is sensible to assume that capacity utilization would be somewhat low in the first year and rise thereafter gradually to reach the maximum level in the third or fourth year of operation. A reasonable assumption with respect to capacity utilization is as follows:

40 - 50 percent of the installed capacity in the first year,

50 - 80 percent in the second years and 80 - 90 percent from the third year onwards.

2. It is not necessary to make adjustments for stocks of finished goods. For practical purposes it may be assumed that production would be equal to sales.

3. The selling price considered should be the price realizable by the company net of excise duty. It shall, however, include dealers' commission which is shown as an item of expense (as part of sales expenses).

4. The selling price used may be the present selling price--it is generally assumed that changes in selling price will be matched by proportional changes in cost of production (This assumption is commonly used by financial institutions. However, it is not very convincing). If a portion of production is saleable at controlled price, take the controlled price for that portion.

Sales and production are closely inter-related. Hence they may be estimated together. For this purpose the format XII A of the application form need by all-India financial institutions in India, may be employed.
(Details may be furnished separately for each product and until the plant reaches maximum capacity utilization)

		Product 1				Product 2			
		1 yr.	2 yr.	3 yr.	4 yr.	1 yr.	2 yr.	3 yr.	4 yr.
1	Installed Capacity (qty/day/annum)								
2	No. of working days								
3	No. of shifts								
4	Estimated production per day (qty.)								
5	Estimated annual production (qty.)								
6	Estimated output as % of plant capacity								
7	Sales (qty.) (after adjusting stocks)								
8	Value of sales (in '000 of Rs.) Product i) ii) iii)								

Note: - Production in the initial period should be assumed at a reasonable level of utilization of capacity increasing gradually to attain full capacity in subsequent years.

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ross profit before interest: __This represents the difference between expected sales and total cost of production.

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otal financial expenses: - Financial expenses consist of interest on term loans, interest on bank borrowings, commitment charges on term loans, and commission for bank guarantees. The principal financial expenses, of course, are interest on term loan interest on bank borrowings.

In estimating the interest on term loans, two points should be borne in mind: i) Interest on term loans is based on the present rate of interest charged by the term loan

lending financial institutions and commercial banks, ii) Interest amount would decrease according to the repayment schedule of term loan.

The interest on bank borrowings may be estimated as follows: (i) determine the total requirement of the working capital, (ii) find out the quantum of bank borrowing that would be available against the total working capital requirement, and {iii) calculate to the interest charges on the basis of the prevailing interest rates.

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<u>epreciation</u>: - This is an important item, particularly for capital-intensive projects. (Written-down value is the value of an asset after accounting for depreciation or amortization. In short, it reflects the present worth of a resource owned by a company from an accounting perspective. This value is included on the company's balance sheet in its financial statements.)

In figuring out the depreciation charge, the following points should be borne in mind:

1. Contingency margin and pre-operative expenses provided in estimating the cost of project should be added to fixed assets proportionately to ascertain the value of fixed assets for determining the depreciation charge.
2. Preliminary expenses in excess of 2.5% of the project cost (excluding working capital margin) should be added to fixed assets proportionately to ascertain the value of fixed assets for determining the depreciation charge.
3. The Income Tax Act specifies that the written down value method should be used for tax purposes. It further specifies the rate of depreciation applicable to different kinds of assets.
4. For company law (financial reporting) purposes, the method of depreciation may be either the written down value (WDV) method or the straight line (SL) method. (With the straight line depreciation method, the value of an asset is reduced uniformly over each period until it reaches its salvage value. Straight line depreciation is the most commonly used and straightforward depreciation method for allocating the cost of a capital asset. It is calculated by simply dividing the cost of an asset, less its salvage value, by the useful life of the asset). From 1988 onwards the depreciation rates under the Companies Act have been delinked from those under the Income Tax Act.The key depreciation rates under the Companies Act are as follows:

		In percentage terms					
		Single Shift		Double Shift		Triple Shift	
		WDV	SL	WDV	SL	WDV	SL
1	Buildings (other than factory buildings)	5.00	1.63				
2	Factory buildings	10.00	3.34				

3	Plant and machinery (general rate)	15.00	5.15	22.50	8.09	30.00	11.31

According to the written down value method, the depreciation charge is a certain percentage of the written down value of the asset. In general terms, the depreciation charge for the nth

n^{th} year is:

$$D_n = I(1-d)^{n-1}d$$

Where D_n = depreciation charge for the n^{th} year
I = initial cost
d = depreciation rate

K. Other Income: - Other income, if any, details have to be given. This represents income arising from transactions not part of the normal operations of the firm. Examples of such transactions are: sale of machinery, disposal of scrap, etc. Except disposal of scrap, which can be reasonably anticipated and estimated, the effects of other non-operating transactions can hardly be estimated. Of course, when non-operating transactions result in a deficit, other income would be negative--put differently, there will be a non-operating loss.

L Write-off of Preliminary Expenses: - Preliminary expenses up to 2.5% of the cost of project or capital employed whichever is higher, can be amortized in ten equal annual installments.

M. Profit/Loss before Taxation:-This is equal to: operating profit + other income - write-off of preliminary expenses.

N. Provision for Taxation: - To figure out the tax burden, sound understanding of the Income Tax Act -- a complicated legislation -- and relevant case laws is required. While calculating the taxable income, a variety of incentives and concessions have to be taken into account. Once the taxable income, as per the Income Tax Act, is calculated, the tax burden can be figured out fairly easily by applying the appropriate tax rates.

0. Profit after Taxation: - This is simply profit/loss before taxation minus provision for taxation. A part of profit after tax is usually paid out as dividend--dividend on preference capital and dividend on equity capital.

P. Retained Profit: - The difference between profit after tax and dividend payment is referred to as retained profit. It is also called ploughed back earnings.

Also Depreciation and Preliminary Expenses Written Off are to be added to Retained Profit.

Q. Net Cash Accrual: - The net cash accrual from operations is equal to: retained profit + depreciation + write-off of preliminary expenses + other non-cash charges.

R. Total Financial Expenses: - Financial Expenses includes Interest on term loans, Interest on borrowings for working capital and Guarantee commission.

Form XII of the application form used by all-India financial institutions for preparing the estimates of working results or profitability projections and the statement should be prepared for ten years giving detailed working shall be provided for calculation of depreciation (straight line and income tax method), interest, taxation, etc.

COST OF PROJECT: - Conceptually the cost of project represents the total of all items of outlay associated with a project which are supported by long-term funds. It is the sum of the outlays on the following:

1. Land and site development
2. Buildings and civil works
3. Plant and machinery
4. Technical know-how and engineering fees
5. Expenses on foreign technicians and training of Indian technicians abroad
6. Miscellaneous fixed assets
7. Preliminary and capital issue expenses
8. Pre-operative expenses
9. Provision for contingencies (something that might happen in the future)
10. Margin money for working capital
11. Initial cash losses

1. Land and site development:- It includes i) Basic cost of land ii) Premium payable on leasehold iii) Cost of leveling and development iv) Cost of laying approach roads and internal roads v) Cost of gates and vi) Cost of tube wells
The cost of land varies considerably from one location to another.

2. Buildings and Civil Works: - It covers the followings
   - — Buildings for the main plant and equipments
   - — Buildings for auxiliary services like steam supply, workshops, laboratory, water supply etc.
   - — Godowns, warehouses, and open yard facilities -- Non-factory buildings like canteen, guest houses, time office, and excise house etc.
   - — quarters for essential staff
   - -- Silos (or bins for raw material storage), tanks, wells, basins, cisterns, hoppers, bins and other structures necessary for installation of plant and equipment

Garages
- Sewers, drainage, etc.

The cost of buildings and civi1 works depends on the kinds of structures required which, in turn, are dictated largely by the requirements of the manufacturing process.

3. Plant Machinery: - It consists of

-- Cost of imported machinery: - This is the sum of i) FOB (free on board) value, ii) shipping, freight, and insurance cost, iii) import duty, and iv) clearing, loading, unloading and transportation charges.

— Cost of indigenous machinery: - This consists of i) FOR (free on rail) cost, ii) sales tax, octroi, and other taxes, if any, and iii) railway freight and transport charges to site.

-- Cost of stores and spares

— Foundation and installation charges

The cost of plant and machinery is based on the latest available quotation adjusted for possible escalation.

4. Technical Know—how and Engineering Fees:- Often it is necessary to engage technical consultants or collaborators from India and/or abroad for advice and help in various technical matters like preparation of project report, choice of technology, selection of plant and machinery, detailed engineering, and so on. While the amount payable for obtaining technical know—how and engineering services for setting up the project is a component of project cost, the royalty payable annually, which is typically a percentage of sales, is an operating expense taken into account.

5. Expenses on Foreign Technicians and Training of Indian Technicians Abroad:-

For Foreign Technicians, expenses on their travel, boarding, and lodging along with their salaries and allowances must be shown here. Likewise, expenses on Indian technicians who require training abroad must also be included here.

6. Miscellaneous Fixed Assets: - Fixed assets and machinery which are not part of the direct manufacturing process may be referred to as miscellaneous fixed assets. They include items like furniture, office machinery and equipment, vehicles, railway siding, diesel generating sets, transformers, boilers, piping systems, laboratory equipments, workshop equipments, effluent treatment plant, fire fighting equipments, and so on. Expenses incurred for procurement or use of patents, licenses, trade marks, copyrights, etc, and deposits made with the electricity board may also be included here.

7. Preliminary and Capital issue Expenses: - Expenses

incurred for identifying the project, conducting the market survey, preparing the feasibility report, drafting the memorandum and articles of association, and incorporating the company are referred to as preliminary expenses. Expenses borne in connection with the raising of capital from the public are referred to as capital issue expenses. These are: underwriting commission, brokerage, fees to managers and registrars, printing and postage expenses, advertising and publicity expenses, listing fees and stamp duty.

8. Pre—operative Expenses: - Expenses of the following types incurred till the commencement of commercial production are referred to as pre—operative expenses.

Pre—operative expenses are directly related to the project implementation schedule. So, delays in project implementation,
which are fairly common, tend to push up these expenses. Appreciative of this, financial institutions allow for some delays (20 to 25%)project implementation schedule and accordingly permit a cushion in the estimate for pre—operative expenses.

9. Provision for Contingencies: — Provision for contingencies is made to provide for certain unforeseen expenses and price increases over and above the normal inflation rate which is already incorporated in cost estimates.

48237312. Margin Money for Working Capital: A certain part of working capital requirement has to come from long—term sources of finance. The principal support for working capital is provided by commercial banks and trade creditors.

The first part of the above is called Margin money for working capital.

The margin money for working capital is sometimes utilized for meeting over-runs in capital cost. This leads to working capital problem (and sometimes a crisis) when the project is commissioned. To mitigate this problem, financial institutions stipulate that a portion of the loan amount, equal to the margin money for working capital, be blocked initially so that it may be released when the project is completed.

11. Initial Cash Losses: - Most of the projects incur cash losses in the initia1 years. Yet, promoters typically do not disclose the initial each losses because they want the project to appear attractive to the financial institutions and the investing public. Failure to make provision for such cash losses in the project cost generally affects the liquidity position and impairs the operations. Hence prudence calls for

making a provision, overt or covert, for the estimated initial cash losses.

MEANS OF FINANCE: - To meet the cost of project the following means of finance are available:

1. Share capital
2. Term loans
3. Debenture capital
4. Deferred credit
6. Incentive sources
7. Miscellaneous sources

1. Share Capital:- There are two types of share capital--equity capital and preference capital. 'Equity capital' represents the contribution made by the owners of the business, the equity shareholders, who enjoy the rewards and bear the risks of ownership. Equity capital being risk capital carries no fixed rate of dividend. 'Preference capital' represents the contribution made by preference shareholders and the dividend paid on it is generally fixed.

2. Term Loans:- Provided by financial institutions and commercial banks, 'term loans' represent secured borrowings which are a very important source (and often the major source) for financing new projects as well as expansion, modernization, and renovation schemes of existing firms. There are two broad types of term loans available in India: 'rupee term loan' and 'foreign currency term loan'. While the former are given for financing land, building, civil works and indigenous plant and machinery and so on, the latter are provided for meeting the foreign currency expenditure towards import of equipments and technical know-how.

3. Debenture Capital:-Akin to promissory notes, debentures are instruments for raising debt capital. (Companies use **debentures** when they need to borrow the money at a fixed rate of interest for **its** expansion.)There are two broad types of debentures, non-convertible debentures and convertible debentures. Non-convertible debentures are straight debt instruments. Typically they carry a fixed rate of interest and have a maturity period of 5 to 9 years. Convertible debentures, as the name implies are debentures which are convertible, wholly or partly into equity shares.The conversion period and price are announced in advance.

48237648. Deferred Credit: - Many a time the suppliers of plant and machinery offer a deferred credit facility under which payment for the purchase of plant and machinery can be made over a period of time.

5. Incentive Sources:- The government and its agencies may provide financial support as incentive to certain types of

promoters or for setting up industrial units in certain locations. These incentives may take the form of 'seed' capital assistance (provided at a nominal rate of interest to enable the promoter to meet his contribution to the project), or 'capital subsidy' (to attract industries to certain locations), or 'tax deferment or exemption' (particularly from sales tax) for a certain period.

6. Miscellaneous sources: – A small portion of project finance may come from miscellaneous sources like unsecured loans as public deposits, leasing and hire purchase finance. 'Unsecured loans' are typically provided by the promoters to bridge the gap between the promoters' contribution (as required by the financial institutions) and the equity capital the promoters can subscribe to. 'Public deposits' represent unsecured borrowings from the public at large. Leasing and hire purchase finance represent a form of borrowing different from the conventional term loans and debenture capital.

Sources of finance for raising capital are:-

1. Equity Capital
2. Preference capital
3. Non-convertible debenture
4. Convertible debentures
5. Rupee term loans
6. Foreign currency term loans
7. Euro issues
8. Differed Credit
9. Bill rediscounting Scheme
10. Suppliers line of credit
11. Seed capital assistance
12. Government subsidies
13. Sales tax deferment and exemption
14. Unsecured loans and deposits
15. Lease and hire purchase finance.

1. Equity Capital: - This is the contribution made by the owners of business, the equity shareholders, who enjoy the rewards and bear the risks of ownership. Equity capital offers two important advantages:

i) It represents permanent capital. Hence there is no liability for repayment,
ii) ii) It does not involve any fixed obligation for payment of dividends.

The disadvantages of raising funds by way of equity capital are:

i) The cost of equity capital is high because equity dividends are not tax-deductible expenses,
ii) The cost of issuing equity capital is high.

2. Preference Capital: - This is like debt capital since rate of preference dividend is fixed. It is similar to equity capital because preference dividend, like equity dividend, is not a tax-deductible payment. Typically, when preference dividend is Skipped it is payable in future because of the cumulative feature associated with it. The, near-fixity of preference dividend payment renders preference capital somewhat unattractive in general as a source of finance. It is, however, attractive when the promoters do not want a reduction in their share of equity and yet there is need for widening the net worth base (net worth consists of equity and preference capital) to satisfy the requirements of financial institutions. In addition to the conventional preference shares, a company may issue Cumulative Convertible Preference Shares (CCPS). These shares carry a dividend rate of 10% (which if unpaid, cumulates) and are compulsorily convertible into equity shares between three and five years from the date of issue.

3 & 4. Debenture Capital: - It is similar to promissory note. In the last few years, debenture capital has emerged as an important source for project financing. There are three types debentures that are commonly used in India:

a) Non-Convertible Debentures (NCDs), Partially Convertible Debentures (PCDs) and Fully Convertible Debentures (FCDs). NCDs are used by companies for raising debt that is generally retired over a period of 5 to 10 years. They are secured by a charge on the assets of the issuing company. PCDs are partly convertible into equity shares as per pre-determined terms of conversion. The unconverted portion of PCDs remains like NCD. FCDs, as the name implies, are converted wholly into equity shares as per pre-determined terms of conversion. Hence FCDs may be regarded as delayed equity instrument.

5.Rupee Term Loans: - Provided by financial institutions and commercial banks, rupee term loans which represent secured borrowings are a very important source for financing new projects as well as expansion, modernization, and renovation schemes of existing units. These loans are generally repayable over a period of 8 - 10 years which includes a moratorium period of 1 - 3 years.

6.Foreign Currency Terms Loans:- Financial institutions provide foreign currency term loans for meeting the foreign currency expenditures towards import of plant, machinery, and equipment and also towards payment of foreign technical know-how fees.Under the general Scheme, the periodical liability towards interest and principal remains in the currency/currencies of the loan/s and is translated into rupees at the then prevailing rate of exchange for making payments to the financial institution. Apart from approaching financial institutions (which typically serve as intermediaries between foreign agencies and Indian borrowers), companies can directly obtain foreign currency loans from

international lenders. More and more companies appear to be doing so presently.

7.Euro issues: - From middle of 1992, a number of companies have been making euro issues. They have employed two types of securities:

Global Depository Receipts (GDRs) and Euro convertible Bonds (ECDs).

Denominated in US dollars, a GDR is a negotiable certificate that represents the publicly traded in local currency (Indian Rupee) equity shares of a non-US (Indian) company (of course, in theory,

a GDR may represent a debt security, in practice it rarely does so) GDRs are issued by the Depository Bank (such as the Bank of New York) against the local currency shares (such as Rupee shares) which are delivered to the depository's local custodial banks. GDRs trade freely in the overseas markets.

A Euro convertible Bond (ECB) is an equity-linked debt security. The holder of an ECB has the option to convert it into equity shares at a pre-determined conversion ratio during a specified period. ECBs are regarded as advantageous by the issuing company because i) they carry a lower rate of interest compared to a straight debt security, ii) they do not lead to dilution of earnings per share in the near future, and iii) they carry very few restrictive covenants.

8.Deferred Credit: - Many a time the suppliers of machinery provide deferred credit facility under which payment for the purchase of machinery is made over a period of time. The interest rate on deferred credit and the period of payment vary rather widely. Normally, the supplier of machinery when he offers deferred credit facility insists that the bank guarantee should be furnished by the buyer.

9.Bills Rediscounting Scheme: - Operated by the IDB1, the bills rediscounting scheme is meant to promote the sale of indigenous machinery on deferred payment basis. Under this scheme, the seller realizes the sale proceeds by discounting the bills or promissory notes accepted by the buyer with a commercial bank which in turn rediscounts them with the IDBI. This scheme is meant primarily for balancing equipments and equipments and machinery required for expansion, modernization, and replacement schemes.

10. Suppliers' line of Credit: - Administered by the ICICI, the Suppliers' Line of Credit is somewhat similar to the IDBI's Bill

Rediscounting Scheme. Under this arrangement IC1C1 directly pays to the machinery manufacturer against issuance of bills duly accepted or guaranteed by the bank of the purchaser.

11. Seed Capital Assistance: - Financial institutions, through what may be labeled broadly as the 'Seed Capital Assistance scheme', seek to supplement the resources of the promoters of

the small and medium scale industrial units which are eligible for assistance from all-India financial institutions and/or state-level financial institutions. Broadly three schemes have been formulated:

i) Specia1 Seed Capital Assistance Scheme: The quantum of assistance under this scheme is Rs.0.2 million or 20% of the project cost, whichever is lower. This scheme is administered by the State Financial Corporations.

ii) Seed Capital Assistance Scheme: The assistance under this scheme is applicable to projects costing not more than Rs.20 million. The assistance par project is restricted to Rs.1.5 million. The assistance is provided by IDBI through state level financial institutions. In special oases, the IDBI may provide the assistance directly.

iii) Risk Capital Foundation Scheme: Under this scheme, the Risk Capital Foundation an autonomous foundation set up and funded by the IFCI, offers assistance to promoters of projects costing between Rs.20million and Rs.150million. The ceiling on the assistance provided between Rs.1.5million and Rs.4million depending on the number of applicant promoters.

12. Government Subsidies: - Previously the central government as well as the state governments provided subsidies to industrial units located in backward areas. The central subsidy has been discontinued but the state subsidies continue. The state subsidies vary between,
5% to 25% of the fixed capital investment in the project, subject to a ceiling varying between RS.0.5million and Rs.2.5million depending on the location.

13.Sales, Tax Deferments and Exemptions: - To attract industries, the states provide incentives, in the form of sales tax deferments and sales tax exemptions.

Under the sales tax deferment scheme, the payment of sales tax on the sale of finished goods may be deferred for a period ranging between 5 to 12 years. Essentially it implies that the project gets an interest free loan, represented by the quantum of sales tax deferred, during the deferment period.

Under the sales tax exemption scheme, some states exempt the payment of sales tax applicable on purchases of raw material, consumables, packing, and processing materials from within the state which are used for manufacturing purposes. The period of exemption ranges from three to nine years depending upon the state and the specific location of the project within the state.

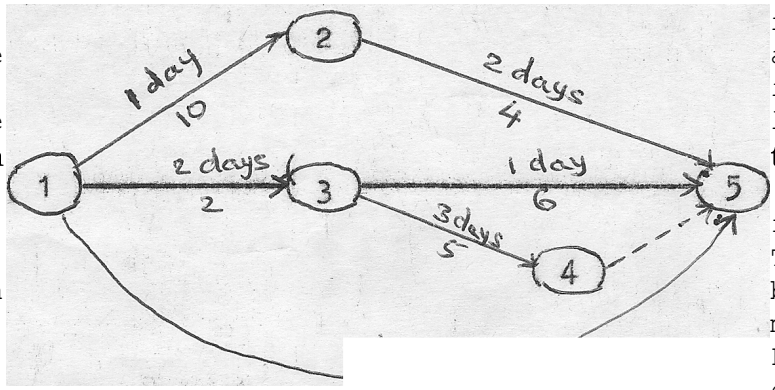
14.Unsecured Loans and Deposits: - Unsecured loans are typically provided by the promoters to fill the gap between the promoter's contribution required by financial institutions and

the equity capital subscribed to by the promoters. These loans are subsidiary to the institutional loans. The rate of interest chargeable on these loans is less than the rate of interest on the institutional loans. Finally these loans cannot be taken back without the prior approval of financial institutions.

Deposits from public, referred to as public deposits, represent unsecured borrowing of 2 to 3 years duration. Many existing companies prefer to raise public deposits instead of term loans from
financial institutions because restrictive covenants do not accompany public deposits. However, it may not be possible for a new company to raise public deposits. Further, it may be difficult for it to repay public deposits within 3 years.

15. Leasing and Hire Purchase Finance: - With the emergence of scores of finance companies engaged in the business of leasing and hire purchase finance, it may be possible to get a portion, albeit a small portion, of the assets financed under a lease or a hire
purchase arrangement.
Typically, a project is financed partly by financial institutions
and partly through the resources raised from the capital market. Hence, in finalizing the financing schemes for a project, you should bear in mind the norms and policies of financial institutions and the guidelines of Securities Exchange Board of India and the requirements of the Securities Contracts Regulation Act (SCRA).

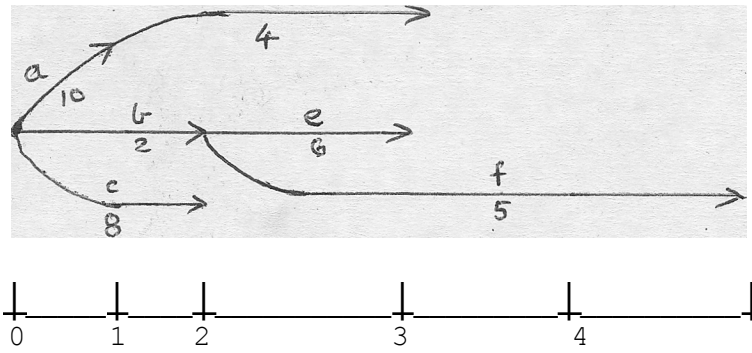
Meeting manpower requirement:-



The manpower required for the activities is indicated by the length of the bar in the bar chart (most suitable for small projects). These bar chart can be used for manpower planning. For large and complex projects Network techniques can be used.

The manpower requirement is shown below the activity arrow. Let us consider a small project for which the network diagram in shown in below:-

Looking at the manpower requirement for the early start schedule we find that it is 20 for the first day, 14 for the second day, 15 for the third day, 5 *for* the fourth day, and 5 for the fifth day. Real life situations, however, there may be restrictions on the availability of resources. For example, manpower supply may be limited. When restrictions exist various schedules may have to be considered to find out which one is most appropriate in the light of these restrictions. In the above network diagram, only 12 men are available for the project (manpower resource constraint). The early start schedule
of this project is shown as a graph on the horizontal time scale.



Looking at the manpower requirement for the early start schedule we find that it is 20 for the first day, 14 for the second day, 15 for the third day, 5 *for* the fourth day, and 5 for the fifth day. Obviously, this schedule is unacceptable in view of the manpower constraint.
So, we explore the possibility of shifting activities. Our efforts at shifting activities, keeping the project duration at five days, soon reveals that no schedule is feasible with only 12 men. So we extend the duration of the project, by one day end try various schedules to see whether we can find a feasible schedule. A little juggling of activities shows that a schedule like the one shown as below is feasible -- this is the best we can do.

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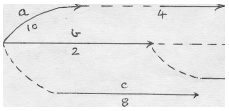

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BREAK EVEN POINT: – Break even point which refers to the level of operation at which the project makes neither profit nor incurs loss is calculated.

Dealing with Government and Financial Institutions:–

Before a project actually reaches the resource allocation level it has to pass through several levels of examination, scrutiny, analysis and appraisal. Delays generally take place when a project has to be screened through so many levels, but the worst delays take place on account of the fact that no systematic or scientifically evolved procedure is used either for the preparation or evaluation or appraisal of the project.

The Government official who deals with the project (like State Electricity Board officials, Pollution Control Board officials for issuing No objection Certificate, or obtaining Land use certificate
and clearances under Factory Act for building plans/machinery installation clearances from Director, Town and Country P1anning/Urban Development Authority, Health Department official etc) who deals with the project, and who has a positive role to play in the final clearance of a project has to be treated as an integral part of the project formulation team (which consists o f a team of experts). He has to be exposed to the details of the project to the same extent as any other member of the team which formulates the pre-investment report.

Financial institutions have to perform dual role. They have to provide institutional support to development activities and secondly they have to identify bankable investment propositions.

No development financial institution advances funds today

merely on the basis of credit worthiness of the entrepreneur. Every institution makes its own assessment and appraisal of the investment opportunity and only after satisfying itself about the capacity of the project to repay the investment and also the desirability of what a project will contribute to the overall development of the country, does it part with it funds.

Project formulation team, in effect, tries to bring the project sponsoring authority and the development finance institutions on one wave length where the parameters of project appraisal laid down by the development finance institutions are integrated into the scheme of development of project ideas and data and other information are collected, evaluated and presented in a form which enables the appraisal team to quickly and efficiently deal with the project.
Some of the financial institutions are ICICI (Industrial Credit & Investment Corporation of India), IDBI (Industrial Development Bank of India), SIDC (State Industrial Development Corporation like APSFC) & SFC (State Financial Corporation like APSFC).

Govt. (Central/State) interventions in all fields of social and economic life based on available knowledge of the conditions and their interrelationship and aimed at the acceleration of development.

National plans are presented with considerable attention and care which identify the priority sectors and production targets for the Country as a whole, and defines the resources mobilization effort which the nation will have to undertake and specify the broad sectoral allocation of resources. And it passes labour laws, controls the prices, exchange regulations etc.

FEASIBILITY STUDIES: – Feasibility report lies in between the project formulation stage and the appraisal and sanction stage. It consists of

1. General information
48236160. Preliminary analysis of alternatives
48236161. Project description
48236162. Marketing Plan
48236163. Capital Requirements and Costs
48236164. Operating Requirements and costs and
48236165. Financial analysis.

1. <u>General Information</u>: - The feasibility report should include an analysis of the industry to which the project belongs. It should deal with the post performance of the industry. Description *of* the type of industry should also be given.

2. <u>Preliminary analysis of alternatives</u>:- This should contain present data on the gap between demand and supply for the outputs which are to be produced, data on the capacity that

would be available from projects that are in production or under implementation at the time the report is prepared, a complete list of all existing plants in the industry, giving their capacity and level of production actually attained, a list of all projects for which letters of intent/licenses have been issued and a list of proposed projects. All options that are technically feasible should be considered at this preliminary stage. The location of the project and its implications should also be looked into. An account of the foreign exchange requirement should be taken. The profitability of different options should also be given. The rate of return on investment should be calculated and presented in the report. Alternative cost calculations
Vis-à-vis return should be presented.

3. Project Description: - The feasibility report should provide a brief description of the technology/process chosen for the project. It should also give reasons for locating the project in a particular area to be given. To assist in the assessment of the environmental effects of a project every feasibility report must present the information on specific points, i.e., populations water,
1and, air, flora$ fauna, effects arising out of projects pollution and other environmental disruption$ etc.

The report should contain a list of important items of capital equipment and also a list of the operational requirements of plant, water, power, personal, organizational structure envisaged, transport costs, activity wise phasing of construction and factors affecting it.

4. Marketing Plan: - The feasibility report should contain the following items:

Data on the marketing plan. Demand and prospective supply in each of the areas to be served.

The methods and the data used for main estimates of domestic supply and selection of the market areas should be presented. It should present an analysis of past trends in prices.

5. Capital Requirements and Cost: - The estimates should be reasonably complete and properly estimated. Information on all items costs should be carefully collected and presented.

6. Operating Requirements and Costs: - Operating costs are essentially those costs which are incurred after the commencement of commercial production. Information about all items of operating costs should be collected. Operating costs relate to cost of raw materials and intermediates, fuel, utilities, labor, repair and maintenance, selling expenses and other expenses.

7. Financial Analysis: - A proforma balance sheet for the project data should be presented. Depreciation should be

allowed for on the basis specified by the Bureau of Public Enterprises. Foreign exchange requirements should be cleared by the Department of Economic Affairs. The feasibility report should take into account income tax rebates for priority industries, incentives for backward areas accelerated depreciation etc. The sensitivity analysis should also be presented. The report must analyze the sensitivity of the rate of return of change in the level and pattern of product prices.

8. Economic Analysis: - Social profitability analysis needs some adjustment in the data relating to the costs and returns to the enterprise. One important type of adjustment involves a correction in input costs, to reflect the true value of foreign exchange, labor and capital. The enterprise should try to assess the impact of its operations on foreign trade. Indirect costs and benefits should also be included in the report. If they cannot be quantified they should be analyzed and their importance emphasized.

PLANNING COMMISIONS'S GUIDELINGES (CHECK LIST) FOR FEASIBILITY REPORT:-

1. Examination of public with respect to the industry.
2. Broad specifications of outputs and alternative techniques of production.

48236200. Listing and description of alternative locations.
48236201. Preliminary estimates of sales revenue, capital costs and operating costs of different alternatives.
48236202. Preliminary analysis of profitability for different alternatives.
48236203. Marketing analysis.
48236204. Specification of product pattern and product prices.
48236205. Raw material investigation and specification of sources of raw material supply.
48236206. Estimation of material energy, flow balance and input prices.
48236240. Listing of major equipment by type, size and cost.
48236416. Listing of auxiliary equipment by type, size and cost.
48236417. Specification of sources of supply for equipment and process know-how.

13. Specification of site and completion of necessary investigation.
14. Listing of buildings, structures and yard facilities by type size and cost.
15. Specification of supply sources connection costs and other costs for transportation services, water supply and power.
16. Preparation of layout.
17. Specification of skill-wise labor requirements and labor costs.

18. Estimation of working capital requirements.
19. Phasing of activities and expenditure during construction.
20. Analysis of profitability.
21. Determination of measures of combating environmental problems.
22. Analysis of the past performance of the enterprise responsible for implementing and running the project with respect to project completion, capacity utilization, profitability, etc.
23. State of preparedness to implement the project rapidly.

Economic Viability: - Above everything, a project should be viable. It should break even on a cash basis in the first 6 to 8 months. It should break even (on cost basis) in the first 9 to 10 months. One must get an accounting profit no matter how small it is, in the very first year. He should not think he cannot earn profits in
the first year. He can if he is determined.He must declare a dividend of at least eight percent in the second year. Many entrepreneurs deceive themselves about the economic viability after
fooling the financial institutions. An entrepreneur can least afford to deceive himself of all people.

2.0 **Technical analysis:**

1. Material inputs & utilities:
    - Raw materials – agricultural, mineral, livestock, forest, marine products.
    - Processed industrial materials & Components
    - Utilities – Power, water, fuel, steam, air etc.
2. Manufacturing process / Technology
    - Choice of technology
    - Acquiring technology
    - Appropriateness of technology
3. Product mix
    - Market requirements
    - Variations in size, quality
    - Product, Price, Place & Promotion
4. Plant capacity
    - Technological requirement
    - Input constraints
    - Investment cost
    - Market conditions
    - Resources of the firm
    - Government policy
5. Location & site
    - Proximity to raw materials

- Availability of infrastructure – water, Power, fuel, transport, communications etc.
- Nearness to market
- Government policies
- Availability of labour and their attitudes
- Climate, pollution, facilities like schools, entertainment etc.

6. Machinery & equipment
    - Selection, procurement, installation & commissioning
7. Structures & civil works
    - Site preparation
    - Buildings & structures
    - Outdoor works
8. Project charts & layouts
    - General functional layout
    - Material flow diagrams
    - Production line diagrams
    - Transport layout
    - Utility consumption layout
    - Communication layout
    - Organizational chart
    - Plant layout
9. Work schedule
    - Installation phase
    - Phasing of investment
    - Develop plan of operation

3.0 **Financial Analysis:**

1. Cost of Project:
    - Land & site development
    - Buildings & civil works
    - Plant & machinery
    - Technical know-how & engg. Fees
    - Expenses of foreign technicians & training
    - Miscellaneous fixed assets
    - Preliminary & capital issue expenses
    - Pre-operative expenses
    - Provision for contingencies
    - Margin money for working capital
    - Initial cash losses
2. Means of finance:
    - Share capital
    - Term loans
    - Debenture capital
    - Deferred capital
    - Incentive sources
    - Miscellaneous sources
    - Planning the means of finance:

- Norms of regulatory bodies and financial institutes
- Key business considerations like cost of capital, risk, control, flexibility etc.

3. Estimates of sales & Production:
   - Capacity utilization
     - 40-50% in 1 year
     - 50-80% in 2 year
     - 80-90% in subsequent years
   - Selling price is realizable value
   - Production & sales assumed to be equal
   - Changes in selling price may be matched with changes in cost of production
4. Cost of Production:
   Material cost, labor cost, utilities cost, factory overheads
5. Working capital requirement & financing:
   - Raw materials & components
   - Work in process
   - Finished goods stock
   - Debtors
   - Operating expenses
   - Sources of WC
     - Advances by commercial banks
     - Trade credit
     - Accruals and provisions
     - Long term sources of financing
     - 25% of current assets must be supported by long term sources of financing i.e. margin money
6. Profitability projections: (Estimates of working results)

   A: Cost of production
   B: Total administrative expenses
   C: Total sales expenses
   D: Royalty & know-how
   E: Total cost of prodn. (A+B+C+D)
   F: Expected sales
   G: Gross profit before interest
   H: Total finance expenses
   I: Depreciation
   J: Operating profit: G-H-I
   K: Other income
   L: Preliminary expenses written off
   M: Profit / loss before taxes: J+K-L
   N: Provision for tax
   O: Profit after tax: M-N
   Less dividend
   - Preference capital
   - Equity capital
   R: Retained profit
   Q: Net cash accrual : P+I+L

7. Breakeven analysis:
   Break even Point in units = fixed costs/ (unit selling price- unit variable cost)

$$= \frac{\text{Fixed cost}}{\text{---------- X Expected prodn. in nos.}} \quad \text{Nos.}$$

Contribution

BEP (% of installed capacity) = (Fixed cost / contribution) x Expected Capacity utilization in the year.

Fixed cost

BEP(in Rs.) = ---------- X Expected sales realization in the year

Contribution

Contribution = sales realization – variable cost

8. Projected cash flow statements:

   Cash flow statement shows the movement of cash into and out of the firm and is net impact on the cash balance with the firm.

   Sources of funds Disposition of funds

9. Projected balance sheet:

   Balance sheet shows the balances in various assets and liabilities.

   It reflects the financial condition of the firm at a given point of time.

Liabilities	Assets
Share capital	Fixed assets
Reserves & surplus	Investments
Secured loans	Current assets, loans, advances
Unsecured loans	Miscellaneous Expenditure & losses
Current liabilities & provisions	

4.0 Project financing:

It refers to the means of finance employed for meeting the cost of the project. The long-term sources used for meeting the cost of the project are known as means of finance.

1. Equity (Owned funds)
   - Ordinary shares
   - Preference shares
2. Debt (barrowed funds)
   - Secured from financial institutes
   - Debentures – convertible, non-convertible
   - Public deposits
   - Rupee term loans
   - Foreign currency loans
   - Euro issues – Global depository receipts , Euro convertible bonds
   - Deferred credit
3. Lease financing
   - Maintenance lease
   - Financial lease
   - Operating lease
   - Net lease

4.1 Classification of capital:

1. Fixed capital: Funds required for acquiring fixed assets.
2. Working capital: Funds required for operations and includes raw materials; work in processes, finished goods, wages and salaries etc.

3. Venture capital: Venture capital is thought of as a creative capital, which is expected to perform economic functions different from other investment vehicles, which primarily serve as expansion capital.
   It is the equity support to fund new concepts that involves a high risk and at the same time has high growth and profit potential.

   Institutions providing venture capital:
   - The technology Development and Investment corporation of India (a subsidy of ICICI)
   - Technology Development fund set up by IDBI
   - The Equity development Scheme - SBI capital markets Ltd., CANFINA.
   - India Investment Fund. – Grindley's bank.

4. Seed capital
   It is the capital to be subscribed by the promoters as required by the financial institutions. Financial institutions through seed capital assistance supplement the resources of promoters of the small and medium scale industries.
   1. Special seed capital assistance scheme: Rs. 2.0 lakhs or 20% of the project cost which ever is less. SFCs
   2. Seed capital assistance for projects costing not more than Rs. 200 lakhs – Rs. 15 lakhs max. – by IDBI
   3. Risk capital foundation scheme for projects of Rs. 150 to Rs. 200 lakhs – Rs 15 to 40 lakhs - by IFCI.

4.2 **Financial institutions:**

1. Industrial finance Corporation of India (IFCI)
2. The Industrial Development Bank of India (IDBI)
3. The Industrial Credit and Investment corporation of India (ICICI)
4. The National Bank for Agriculture and Rural Development (NABARD)
5. The Small Industries Development Bank of India (SIDBI)
6. Industrial Investment bank of India (IIBI)
7. Life Insurance Corporation of India (LIC)
8. General Insurance Corporation of India (GIC)
9. Export Import bank of India (Exim Bank)
10. Khadi & Village Industries commission (KVIC)
11. National Small Industries Corporation Ltd. (NSIC)
12. State industrial Development Corporations (SIDCs)
13. State Small industries Development Corporations (SSIDCs)
14. State Financial Corporations (SFCs)
15. Commercial banks

4.3 **Institutions engaged in entrepreneurial development:**

1. Small Industries Extension Training Institute, Hyderabad (SIET)
2. Small Industries Service Institute (SISI)

3. Small Industries Development Organization (SIDO)
4. Entrepreneurial Development Institute of India (EDII) set up by IFCI
5. National Institute for Entrepreneurship and Small business Development (NIESBUD)
6. Gujarat Industrial and Investment Corporation (GIIC)
7. Indian Investment Center (IIC)
8. Entrepreneurial Motivation Training Center EMTC)
9. Xavier Institute of Social Sciences Ranchi.
10. Center for Entrepreneurship Development , Ahmadabad (CED)
11. Rural entrepreneurship development (RED) institute.
12. National science and technology Entrepreneurship development Board (NSTEDB)
13. Rural Management and management centers at Maharashtra and Training cum Development centers RMEDC)
14. Management Development Institute (MDI)