CHAPTER 2
PROJECT PLANNING

Concept:

Chambers' Twentieth Century Dictionary defines project, “as a scheme of something to be done, a proposal for an undertaking”.

Plan: “A Scheme for accomplishing a purpose, a proposed method, a scheme drawn up before hand”. Webster's New World Dictionary defines the above terms almost in a similar manner listing project, "as a proposal, a plan, an organised undertaking, as a special unit of work". Plan "as a scheme for making, doing or arranging something, a method of proceeding".

In the light of the above literal meanings, a project may be defined as a scientifically evolved work plan devised to achieve a specific objective with a certain cost and within a specified period of time. From the point of view of resources allocation a project can be considered as a proposal involving capital investment for the purpose of developing facilities to provide goods or services. Planning may be defined as the method of preparation, development and presentation of the ideal or optimal plan.

When any project is to be launched either in the public, private or cooperative sector, an idea is conceived by someone called promoter. For putting his idea into practice, the promoter has to perform a number of duties, the first and foremost being the examination of the
viability of the project. Other important problems confronting the promoter generally, are to comply with the legal requirements, to organise and arrange finance, plant and equipment and personnel etc. The promoter has to consult various experts and specialists for the purpose and all this involves a considerable amount of efforts and expenditure. A promoter may be a private individual, a body corporate, a Government agency or a Government department itself.

Examining the techno-economic viability of the project is something fundamental for ensuring its success. The importance of the project planning and implementation stems from the fact that the mistakes committed during the pre-operative stage cannot be undone subsequently during the operative period.

From the national point as well, project planning and appraisal assumes a great degree of importance particularly in a developing economy characterised by the scarcity of resources. Planning and detailed appraisal of a project, before any amount of resources is committed to it is necessary so as to avoid wastage of scarce resources.

The developing countries of the world are striving hard to affect an early socio-economic transformation of their economies, and the planners in these countries
are faced with an uphill task of undertaking an exercise aimed at the identification of the right type of projects. The projects so identified should be in tune with the local conditions and resource endowment of these countries. They should be capable of generating growth impulses in the country and possess the potential of making maximum contribution to the economy.

The economy of these countries is predominantly agrarian in nature. Traditionally, agriculture has been the main source of livelihood for majority of their population, and it continues to be so. These countries are caught in a vicious circle of poverty, illiteracy, low rate of capital formation, low rate of investment and so on and so forth. The basic requirement for their growth is reconstruction and revitalisation of the agriculture. But revitalisation and reconstruction alone is not enough for tackling the problem of acute poverty. There is an urgent and dire need to diversify their economies through industrialisation. The experience of industrialisation is essential to achieve a greater security, stability and a higher standard of living.

The potential of the cooperative-processing industrial projects in ensuring remunerative price to millions of small and marginal farmers, checking disguised
unemployment and under-employment, modernising agriculture, checking concentration of wealth and economic power in a few hands, and creating growth impulses in the rural areas, has been well-recognised in the development plans. Starting with the second five year plan, targets have been laid down for the setting-up of cooperative agro-processing units based on the various agricultural commodities like sugar, cotton, oil seeds, paddy, jute, etc.

To take full benefit of such projects, it becomes essential that they are properly planned, installed and efficiently operated. Project planning aims at ascertaining the techno-economic viability or the feasibility of a project. The word feasible in common usage means 'what is possible or practicable'. In the planning of an industrial project the word has an identical meaning in regard to what is technologically possible and economically practicable. In the present context of a complex industrial economy, especially in a developing economy, such as ours, the economic success of an industrial project depends on many other factors besides technology. A fuller definition of industrial feasibility with specific reference to industries in the Cooperative Sector would be as follows:

An industrial project may be said to be feasible when not only its technological aspects but also its organisational, operational and financial aspects, which influence its economy have been investigated in the course of the planning of the project and found favourable so as to enable the promoter to forecast with a high degree of confidence that the project would be economically successful, if implemented as per plan and managed efficiently.

Project planning process usually encompasses the period of time which begins with the project conception and continues till the completion of implementation planning.

The process of planning a cooperative agro-processing project, like any other project would consist of the following stages:

I. Project formulation or conducting pre-feasibility study;
II. Preparing feasibility report; and
III. Preparing detailed project report.

I. Conducting Pre-feasibility Study.
In the pre-feasibility study the emphasis is mainly on the factors which/basically to the success of a project, depending upon the nature of the Industry. The pre-feasibility study of a co-operative agro-processing project planning process usually encompasses the period of time which begins with the project conception and continues till the completion of implementation planning.

project should include information concerning availability of raw-material and the possibility of collecting the required amount of share capital from the growers, besides, a brief market analysis, preliminary technical analysis, an approximate level of profitability and other relevant factors.

Agro-processing industries operate in well-established markets and their products like sugar, rice, edible oils, etc., are an integral part of the food consumption of a common man. The marketing in their case is not so big a problem, as it is, in other industries. So the point which merits special attention of the promoter is the availability of the raw-materials in sufficient quantity to run a unit of an 'economic size'. It becomes imperative for an agro-processing unit to meet its raw-material requirements from the nearby area, so as to affect economy in the transportation cost. It is more so, in the case of a project which intends to process perishable raw-material like sugarcane; as longer distance between the cane farm and the mill reduces the yield (recovery), besides, increasing the transportation cost.

II Preparing Feasibility Report:

A feasibility study leading to the preparation of the feasibility report can be defined as "a complete
analysis of the economic and technical viability of the project and an assessment of the scale of likely profitability. It involves a comprehensive and systematic compilation of data, technical and economic, pertaining to the project so as to provide a rational basis for the assessment of the costs and benefits, advantages and disadvantages, which emanate from the specific dose of investment embodied in the project. Industries in the cooperative sector do not differ in technological and productive aspects of feasibility from their counterparts in the public or private sector. But they differ markedly in their organisational, operational and financial aspects on account of their cooperative structure involving diffused ownership, mode of working and objectives. The latter aspects of feasibility have a considerable bearing on their economic success. The following are the points to be considered while preparing the feasibility report of a co-operative agro-processing project:

(i) Availability of raw-material;
(ii) Market Analysis;
(iii) Technical Analysis;
(iv) Location;
(v) Project Cost;
(vi) Financial Analysis;
(vii) Social Profitability Analysis.

(i) Availability of Raw-Material:

The foremost feasibility requirement in the setting-up of an agro-processing unit is the assured availability of the agricultural commodity required as raw-material in a quantity sufficient to operate a plant of 'economic size' over a period of its useful life. The estimates of raw-material supplies are essential for deciding about the location and the size of the plant, for formulating sales policy, for determining the product-mix, expansion and diversification plans.

Factors, such as, established alternative markets for the produce, speculative prices and activities of middlemen may tend to cause diversion of the commodity to such alternative markets. This results in a serious shortfall in the availability of the commodity to the plant and affects its economics adversely. To avoid such a situation, it becomes necessary to have a well-knit self-regulatory cooperative organisation of the growers, which will ensure smooth procurement, pooling and processing of the commodity for the benefit of the growers. In this regard, it would be worthwhile to make a mention of the model adopted by the successful sugar cooperatives which emphasises the following:

(a) Membership of the processing cooperative should be confined to the growers only, whose cultivable lands
are located near the factory, to facilitate harvesting, procurement, transport, pooling and processing of the commodity;

(b) Each member should be bound, under a firm agreement, to supply all or specified quantity of his produce to the society;

(c) The capacity to be installed must be matched with the total availability of the commodity depending upon the acreage and/or the yield within the factory area.

(ii) Market Analysis:

In an open market economy, cooperatives operate in a competitive environment and they are subject to all the business and marketing risks to which any other private sector unit is. So it becomes necessary to examine the marketability of the product before a cooperative decides to venture into it. The marketing of the product of secondary and tertiary processing such as Industrial Alcohol, Vanaspati, Refined Oil, Soap, Cattlefeed, are subject to a much greater difficulty, and this calls for need of having a marketing organisation as a part of the sales department of the project. Not only catchy brand names and attractive packing are necessary; but also a heavy expenditure on advertisement and sales promotion is required to be incurred especially during the initial years of production. All these increase both the project cost as well as the operating cost.
(iii) Technical Analysis:

After the marketability of the product is established and the raw-material supply/reasonably assured, it becomes possible to give a shape to the project by conducting technical analysis. The main points to be considered in such analysis are, the choice of the size of the plant or scale of production, and the choice of the technology.

In the case of cooperative agro-processing the size of the plant chosen should be as high as feasible, since this by inducting high economies of scale into operations, would enable the unit to offer higher return to the growers and to compete more effectively with the private trade. Due to the same reasons, a processing cooperative should instal high technology efficiency plants.

For most of the primary processing industries like sugar, the choice of technology is restricted to well-established conventional designs of equipment. This is the case particularly with the sugar projects where choice of technology has to be confined to the Government's
standard specifications, in order to avail the incentives available to the new units in terms of higher free-sale quota and excise concession for a specified number of years.

(iv) Location of the Plant:

The place selected for locating the plant should be such that it can get raw-material in sufficient quantity from within the nearby area, besides, other inputs like power, water, means of communication and transport etc. Availability of a net work of pucca roads connecting farms and factory site is essential for ensuring regular and smooth supply of materials to the mill. If sufficient transport and irrigation facilities do not exist already, the mill may be called upon to make heavy investment in these.

4. These specifications were evolved in the early seventies, based on the Sampth Committee Incentive Scheme, and since then, a considerable technological advancement has taken place, and is taking place, in the country and abroad. So there is a dire and urgent need to update these standard machinery specifications. The need to update these standard specifications was emphasised in a seminar on 'Standard Specifications of Sugar Plants and Incentives to New Projects—Critical Appraisal of Both', organised in Madras by the South India Sugar Cane and Sugar Technologists Association(SISSTA). To quote the proceedings of the Seminar: "Adherence to the outdated specifications amounts to closing one's eyes to all the technological advances that has taken place or is taking place in the country or abroad."

_realised the difficulty the Government of India has set-up a technical committee for revising standard specifications for sugar plants (The Economic Times, February 20, 1984, p. 3)
v) **Project Cost:**

The project cost would be the sum total of the various fixed assets and margin-money required for getting working capital advance from the banks. An Agro-processing cooperative may have to spend for the development of the crop in question. Consequently the crop development expenses shall also form part of the project cost.

vi) **Financial Analysis:**

Financial analysis of the project would consist of ascertaining its profitability, determining the break-even level, determining and devising the capital structure, working out the cash forecasts, projected income statement and balance sheet, etc. Examination of the profitability so as to ascertain the commercial viability of the project is the most important of all these. The need for conducting the feasibility study so as to ensure the profitability of the project was emphasised in the International Cooperative Alliances (ICA’s) Regional Seminar on Cooperative Processing held at Bangalore from December 5 to December 20, 1966. To quote the proceedings of the seminar “the group concludes that a feasibility study proving the profitability of the sugar factory is indispensable.” This holds good in other types of processing cooperatives as well. Examination of the estimates of the recurring income and expenditure so

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5 ICA Regional Seminar on Cooperative Processing held at Bangalore from December 5 to December 20, 1966, p. 542.
as to consider the over-all economies of the proposed unit was also one of the major recommendations of the 'Committee on Cooperative Processing' appointed by the erstwhile National Cooperative Development and Warehousing Board which submitted its report in 1961. The profitability of the project can be examined by applying one or more of the following methods of capital budgeting:

1. Pay back or pay-off period method;
2. Accounting rate of return method;
3. Net present value method;
4. Profitability index method;
5. Internal rate of return method.

(vii) **Social Profitability Analysis:**

With the governments in developing countries having assumed the responsibility of uplifting the weaker sections of the society, social profitability analysis is gaining greater importance these days. In financial analysis the emphasis is on ascertaining the benefits to the enterprise itself. But in social profitability analysis, the emphasis is to examine a project in terms of its benefits to the society and the national economy. Social profitability implies the excess of benefits which are likely to accrue to the society over the cost which a project inflicts on it.

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The basic problem in the social profitability analysis is that all the social costs and benefits are not amenable to exact quantitative measurement.

Any cooperative agro-industrial project when considered in the light of the social profitability analysis, because of its social bias and enormous gains; which it would confer on the rural community, meets the test of social profitability. But still considering social profitability analysis as an essential part of project-analysis can be of much help to the government and financial institutions, when some choice has to be made from amongst a number of proposals because of the paucity of funds and other resource-inputs. From this point of view, a project which has the largest potential of benefitting the largest number of small farmers, as compared to ones, whose benefits are likely to be confined to a few big farmers, deserves to be given priority.

III. PROJECT IMPLEMENTATION AND MONITORING:

Once a project is selected, the focus shifts to its implementation. This requires the completion of various project-activities by employing various resources, men, money, materials, machines and time; so that a project on paper is translated into a concrete reality.
Much of the technical development of the project may take place on the basis of the feasibility study. But for making detailed technical plans and estimates and for awarding contracts, sufficient information may not be available and the preparation of the Detailed Project Report (DPR) may become essential for the purpose. Broadly speaking this document (DPR) should encompass the following:

(a) Detailed engineering designs;
(b) Detailed plant lay-out;
(c) Detailed estimates of work;
(d) Detailed specifications;
(e) Complete work plan and schedules;
(f) Detailed contract plans and schedules;
(g) Manpower plan;
(h) Financial plan;
(i) Organisational plan;

From an analysis of the contents of the DPR, it can be observed that this document is as important as the feasibility report. DPR is must for evaluating the progress of the project.

For the proper planning, scheduling and control of activities, given their interrelationship and resource constraints, network techniques have been found quite useful. There are two basic network techniques, Programme
Evaluation and Review Technique (PERT) and Critical Path Method (CPM). The need of applying PERT or CPM technique for planning and monitoring a cooperative sugar project so as to ensure its timely completion was emphasised at the various seminars on 'Management of Sugar Industry' organised by Management Development Institute, New Delhi. To provide a vehicle for cost planning and control the network cost system has been developed which represents a very useful supplement to the time oriented network analysis.

The cooperative agro-processing projects can be classified into two categories depending upon the capital cost involved.

(i) Large projects consisting of sugar mills, spinning mills and jute mills, etc.,

(ii) Small and medium projects like cotton ginning mills and rice mills, etc.

The network techniques mentioned above are generally applied to large projects as mentioned above. For small and medium projects, the technique generally applied is Bar Charts. Bar Charts like traditional network techniques depict the sequence and time duration of each of the activities and help in minimising the time duration in the implementation of the project.

G.C.L. Joneja (1975), "Valedictory Address", Management of Sugar Industry (Proceedings of Seminar), New Delhi, Management Development Institute, p. 89.
On completion of the project i.e. when the installation is over, a report called project completion report should be prepared. Actual progress with regard to time and cost should be compared with the estimates and reasons for variations analysed.

ROLE OF NATIONAL COOPERATIVE DEVELOPMENT CORPORATION IN PROJECT PLANNING AND IMPLEMENTATION

All-India Rural Credit Survey Committee in its report of 1954 suggested that while the Reserve Bank of India should serve as the promotional and financing agency for the cooperative credit programme in the country, a National Cooperative Development and Warehousing Board may be established for performing the promotional and financing role in respect of marketing, processing, storage and supplies sector, in the cooperative. Accordingly, the National Cooperative Development and Warehousing Board was established by the Central Government under the Agriculture Produce (Development and Warehousing Corporation) Act 1956. In 1963, the Board was bifurcated. Warehousing activities were taken over by the Central Warehousing Corporation. A separate Corporation (NCDC) was established under the National Cooperative Development Corporation Act 1962 for planning and promoting the programmes for processing, marketing and storage of agricultural commodities through cooperative
societies and to stimulate the flow of institutional finance from indigenous as well as international agencies.

As mentioned earlier in the first chapter, National Cooperative Development and Warehousing Board, Delhi appointed a committee under the chairmanship of Sh. G.S. Sariya to study and the promotional/organisational aspects of the agro-processing cooperatives. The said committee in its report submitted in 1961 observed that “in the case of processing units other than sugar cooperatives requisite project planning was missing”. The Committee also observed that as a result of all this, some units were forced to close down and some others were facing problems in their working. To quote the Committee “as regards processing units other than sugar cooperative factories, we observe that in many cases, requisite planning and investigation at the initial stage has been conspicuous by its absence. The Committee recommended that a proper and detailed investigation into the following aspects should be undertaken before setting up a cooperative processing unit:

(i) The extent of availability of agricultural produce to be processed within the area of operations of the proposed factory.


9 Ibid.
(ii) The extent to which the need for the proposed processing unit is felt by the growers and the prospect of attracting their loyalty.

(iii) Examination of the estimates of recurring income and expenditure (including interest and depreciation charges) so as to consider the over-all economics of the proposed unit;

(iv) Facilities for transport of raw-material and disposal of finished products.

The need to have a careful planning with regard to the above points before the setting-up of a processing unit was also one of the important recommendations given by the 'Expert Committee on Financing of Cooperative Processing 1968'.

The Sariya Committee also recommended that the Ministry of Community Development and Cooperation (Department of Cooperation) should get prepared and circulate model blue-prints on cooperative processing. The blue-prints should indicate clearly the various factors which have a bearing on the working of the proposed processing activity, the economics of a minimum viable processing unit as also the standard specifications.

In the light of above recommendations, the NCDC took the following measures to ensure that the setting-up of a project is preceded by a proper feasibility study, advance planning with reference to the availability of raw material, storage and marketing of finished products etc. and over-all economic viability of each project:

(i) To develop secondary processing of agricultural produce in cooperative sector, it (NCDC) introduced a scheme in August 1967 to provide assistance to the State Governments to undertake feasibility studies and preparation of project reports of cooperative processing units. The scheme was later on enlarged to cover all types of cooperative agricultural processing units at primary/secondary/ and tertiary levels/agricultural inputs industries such as agricultural implements/machine manufacturing units, pesticides, and insecticides formation units. This assistance is upto 100 per cent of the expenditure involved.

(ii) The corporation has circulated model schemes for processing of wide range of commodities (cotton, rice, oilseeds, cotton seed, groundnut, peas, tomatoes, cashewnut, etc.) for the guidance of promoters in preparing feasibility studies and project reports.

12 NCDC Bulletin, Volume IV, (July-October, 197^) p. 10
(iii) Formation of technical cells at the levels of national and state marketing societies for giving technical guidance to the processing units.

(iv) To ensure proper appraisal of the projects in the field of agriculture marketing and processing, a new division called the Project Appraisal and Evaluation Division (PAE) was created in the NCDC in 1977. The PAE is headed by the secretary, NCDC and consists of a management consultant, a financial analyst and an economic analyst. The main function of the division is to examine the technical feasibility and economic viability of new projects, undertake performance evaluation of the units already assisted by the corporation and advice the state level federations in the field of management and finance.

(v) The corporation has also taken measures to ensure timely completion of the projects by adopting the policy of progress-oriented release of assistance to the processing units.

**PROJECT PLANNING AND IMPLEMENTATION IN THE UNITS UNDER STUDY**

In most of the units under study, project planning was either missing or faulty and incomplete. Of all the thirty eight projects (including expansion projects) under

study, project report was prepared only in the case of three projects namely, The Hansi Cooperative Spinning Mills Ltd., Hansi, The Abohar Cooperative Spinning Mills Ltd., Abohar and the expansion project of The Morinda Sugar Mills, Morinda. In the case of The Morinda Cooperative Sugar Mills Ltd., Morinda, no project report was prepared in the beginning. Project report was prepared for the expansion project undertaken by the mill during 1978-79 to expand its capacity from 1000 to 2000 tonnes per day crushing. In the case of MARKFED projects, and Sonepat and Karnal Sugar Mills separate project reports were not prepared. These units were set up with the assistance of NCDC and IFCI. Project planning in these units was confined to the points covered by the NCDC/IFCI’s prescribed loan application forms. Only the absolute figures of profit were worked out. No project planning was done by the MARKFED while setting-up The Cotton Seed Processing Plant at Gidderbaha (Economics of the project was not examined). The project report was prepared later on when MARKFED thought of taking loan from the NCDC.

The Rice-shellers at Shahabad, Karnal and Dhand were originally set up by the HAFED itself (others were taken over by it from the primary marketing societies). No project planning was done by the HAFED at the time of setting-up of these units. Project reports were prepared
later on when the HAFED decided to instal par-boiling plants in these rice-shellers with the assistance of NCDC. Mistakes were committed in the preparation of project reports at this stage even. The following were not included in the block cost:

(a) Packing and handling charges, excise duty, central sales tax, transit insurance, transportation and erection charges with regard to par-boiling plant and machinery.
(b) Switch board/lighting expenses.
(c) Electrical fittings.
(d) Power cabling and paddy pre-cleaner.
(e) Expenses during the construction period.

HAFED was asked by the NCDC to work out the revised block cost of these units and to ascertain their economics accordingly.

In the case of The Hansi Cooperative Spinning Mills Ltd. Hansi, building requirements were not considered fully in the project report. The actual expenditure on this account went as high as ₹ 93.20 lakhs against the estimated cost of ₹ 56.00 lakhs. In the case of Karnal Sugar Mills,  

15 NCDC letter No. NCDC 13/12/78- FM, written to MD, HAFED, subject: proposal for sanction of financial assistance towards establishment of par-boiling units in its existing rice mills.
the project cost was revised twice. It was raised from Rs 350.00 lakhs to Rs 525.00 lakhs and again to Rs 580 lakhs.

In the case of Sonepat Sugar Mills, the project cost was revised thrice. It was revised from Rs 450.00 lakhs to Rs 525.00 lakhs and again to Rs 555.00 lakhs. The re-revised estimated cost was considered inadequate to cover the entire expenditure and once again it was revised to Rs 605.00 lakhs.

The project report of The Abohar Cooperative Spinning Mills Ltd, Abohar was got prepared from The All India Federation of Cooperative Spinning Mills Ltd, Bombay. The cost of plant and machinery was considerably underestimated in the project report. The actual expenditure on this account was Rs 512.02 lakhs against the estimated cost of Rs 342.19 lakhs as per the project report.

The Management of The Rohtak Cooperative Sugar Mills Ltd, Rohtak decided to expand the capacity of the mill from 1200 tonnes per day to 1350 tonnes per day, when even, its existing capacity was not fully utilised. The actual capacity utilised after the completion of the expansion remained below the 1200 tonnes per day (capacity before expansion). The fact is clear from the following table:

<table>
<thead>
<tr>
<th>Serial No.</th>
<th>Yearly Season</th>
<th>Installed Capacity before expansion</th>
<th>Actual Cane Crushed (in tonnes per day)</th>
<th>Shortfall in %age</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1966-67</td>
<td>1200</td>
<td>929</td>
<td>23 approx.</td>
</tr>
<tr>
<td>2.</td>
<td>1967-68</td>
<td>1200</td>
<td>1002</td>
<td>17 approx.</td>
</tr>
<tr>
<td>3.</td>
<td>1968-69</td>
<td>1200</td>
<td>1083</td>
<td>10 approx.</td>
</tr>
</tbody>
</table>
The sugar industry is a cyclical industry. In a cycle of ten years, there are generally three good years, three bad years, and four normal years. The seasons following the addition of machinery and other equipment under the scheme of expansion were the years when the mills did not receive the full supply of sugarcane due to drought conditions, effect of various pests and diseases on sugarcane crop and prevalent high prices of Gur and Khandsari. Thus the expansion of mills in a year which fell in the cycle of three bad years was wholly uncalled for and unjustified.

Economic considerations were totally ignored while setting-up Cotton Ginning and Pressing Factory at JAITU by the MARKFED. As desired by the then Minister of Cooperation, Punjab, a committee was appointed to examine the feasibility of setting-up a cotton ginning and pressing factory at Jaitu. In its preliminary investigations the committee cautioned the MARKFED against going in for this venture. As per the findings of the committee there was already a surplus ginning capacity at Jaitu because of the shortage of raw-materials i.e. raw cotton. It hardly needs to be emphasised that the availability of raw material from the nearby area is sine qua non for the viability of an agro-processing plant. The committee also pointed out that the cotton ginning and pressing factory, if set-up at
Jaitu would affect the working of the already set-up Cotton Ginning and Pressing Factory at Goniana at a distance of about 15 kilometers from Jaitu. Inspite of all this the MARKFED went ahead with the setting-up of Cotton Ginning and Pressing Factory at Jaitu.

In the case of Markfed Canneries, Jalandhar, raw-material availability and marketing aspects were altogether ignored. The unit is incurring losses right from the beginning. This basic mistake has frustrated all the attempts on the part of the management to put the unit on the track. So much so that the MARKFED once thought of closing down the unit.

The Rohtak Cooperative Sugar Mills Limited, Rohtak was scheduled to start on 15th November, 1956. But it went into production on 31st January, 1957. The commissioning was delayed due to delay in the completion of the erection. The order for the purchase of machinery worth Rs 86.61 lakhs was placed with a U.K. firm, M/s A.F. Craig and Co. Under the agreement the manufacturer had to supply the mill plant of the gross weight of approximately 2900 tons. There was a dispute between the supplier and the mill regarding the weight of the machinery supplied and overhead expenses, such as, freight, transportation, insurance, etc. The centrifugals supplied were inadequate to cope with the crushing of 1000 tons of cane crush per day. Timely action
to make up this deficiency by arranging the centrifugals from the market was not taken which could have avoided heavy losses during 1956-57 and 1957-58.

In the case of The Karnal Cooperative Sugar Mills Ltd. Karnal, contract for the supply of machinery was given to the Engineering Projects (India) Ltd., New Delhi. As per the clause 9.1 of the agreement entered into by the mill with the said company, the plant was to be commissioned on 30.11.1976 but the plant was actually commissioned on 1.1.1977. Moreover the machinery supplied was sub-standard and defective (defective cane-carrier, cane cutter and leveller, mill rollers, shafts, bagasse inter carrier, mills hydraulic sleaves, 4 Nos. mill coupling. Thus the project authorities failed to get the standard machinery supplied by the supplier as per schedule. The delay in commissioning indicates absence of regular monitoring of the progress by the project authorities.

As a result of all this, the factory had a lot of trouble during the first trial season and in the second also, especially on milling plant, boilers and power turbine. The boiling house cleaning equipment also did not work normally due to which there were so many stoppages, resulting in fermentation of different sugar products and thereby causing high losses and low recovery. It was lowest in Haryana in the year 1977-78.
In the case of The Sonepat Cooperative Sugar Mills Ltd., Sonepat, the work relating to supply of machinery and equipment, and to make the plant ready for commissioning for commercial production was allotted to the Engineering Project of India, Ltd., New Delhi, on turn-key basis. As per the agreement the EPI had to give the plant and machinery in the correct working order by 31.10.1976. The failed project management to get the EPI commitment fulfilled and the plant was not handed over to the society till 31.6.1978. A dispute arose between the Mills and the EPI. The Mills referred the case for arbitration. Justice Sikri, a retired Chief Justice of Supreme Court of India was appointed as sole arbitrator.

Not to talk of delay in completion of erection by one year and eight months, the machinery supplied was defective and of sub-standard quality. This led to the high stoppages and heavy expenditure on repairs and upkeep, compelling the mill to suffer huge losses during the first five seasons of 1976-77, 1977-78, 1978-79, 1979-80 and 1980-81.

The expansion project taken up by the management of Cooperative Sugar Mills Ltd. Panipat in 1974 was expected to be completed before the crushing season 1975-76. But it spread over to two seasons (1975-76 and 1976-77). It was expected that the mill would run on expanded capacity during the season 1975-76. Not to
speak of this season, the Mill could not commission the expanded capacity even during the season 1976-77. For installation of the machinery the existing machinery had to be dismantled at several places and new pipe lines were laid, which in turn unhinged and dislocated the existing machinery. The dislocation and imbalance caused in existing plant resulted in mechanical defects and consequently higher stoppages. In addition to above, the actual expenditure exceeded the estimated by 50%. The agreement for the purchase of machinery valuing Rs 147 lakhs was signed on 2.11.1974 with M/s R.R. Engineering Comp., Barieely. The actual expenditure incurred on plant and machinery went up to Rs 172.76 lakhs, thus exceeding the contracted price by Rs 25.76 lakhs (17.52%). The Registrar, Cooperative Societies, Haryana decided to conduct an enquiry under section 54 of the The Punjab Societies Act, 1961, on the basis of special audit report by the Senior Auditor (Cooperative Societies) Sugar Mills, Panipat. The enquiry officer found that the extra expenditure to the tune of Rs 25.76 lakhs was as a result of liberal advances made by the management to the contractor without satisfying itself about the effective steps being taken by the contractor to execute the project. The contractor lost interest in the work on getting cash advances and most of the installation work was done by the mill itself.
It is clear from the above mentioned facts that the management did not exercise prudence expected even from an ordinary man in business, in implementing the expansion project. Advance payments to the contractor were allowed even beyond the terms and conditions of the agreement. Thus, the mill suffered a loss of ₹ 25.76 lakhs.

In the case of expansion project of Markfed Vanaspati and Allied Industries, Khanna, MARKFED was to complete the civil work by 30th September, 1982 as per the work plan. The same was not completed until 31st March, 1983. Subsequent supply of machinery was delayed because of delay in making payments for the machinery despatches made earlier.

In the case of Markfed Cotton Seed Processing plant, Gidderbaha, the process regarding delivery, erection, commissioning and handling over of the plant was to be completed at the most by mid-January, 1975, even after taking into consideration such time as was provided for performance demonstration. However, the contractors failed to fulfil their obligations and it was not before November 1975 that they were able to instal the plant. Undoubtedly, as a sequel of this ten months delay in the commissioning of the plant, MARKFED had to sustain considerable loss on account of blockage of funds, comparative price decrease
of cotton seed purchased in anticipation of commissioning of plant, besides, loss of production due to draige and spoilage of cotton-seed (which accidently constitutes the basic raw material).

Cost Over-runs:

It is clear from the attached Table 2.1 that cost over runs to a substantial amount have occurred in most of the cases. (Also see Fig.2.1) In some of the cases their magnitude is quite alarming— as high as being more than 80%. Maximum cost over runs have occurred in the case of Rohtak Cooperative Sugar Mills expansion (1968). Actual expenditure exceeded the estimated cost by as high a magnitude as 88.23%. The matter drew the attention of Public Accounts Committee of the Haryana Vidhan Sabha (1972-73). The Committee observed that the rise in the cost of building material and labour charges alone would not result in almost 100 per cent increase in expenditure. The Committee observed that cost over-runs by such a big amount were partly due to loose financial controls.

Cost over-runs to such an extent clearly indicates that the cost control aspect was not given due attention during the installation stage in most of the cases. Cost over-runs delay the commissioning of a project and may make a viable project unviable. (See Fig.2.2).

16 Haryana Vidhan Sabha, Public Accounts Committee (1972-73), 5th report, p. 49.
Cost over-runs in some of the projects

- Original estimate
- Actual expenditure
- Cost over-runs

FIG. 2.1

The Rohtak Cooperative Sugar Mills expansion (1968)
Markfed Cotton Ginning and Pressing Factory Jatuli (1980)
Markfed Cotton Ginning and Pressing Factory Sarduqan (1980)
The Rohtak Cooperative Sugar Mills expansion (1977)
The Karnal Cooperative Sugar Mills Ltd. Karnal (1977)
The Sonepat Cooperative Sugar Mills Ltd. Sonepat (1977)
### Table 2.1
Cost Over-Runs in Some of the Projects under Study

<table>
<thead>
<tr>
<th>No.</th>
<th>Name of the Project</th>
<th>Year of Setting-up</th>
<th>Estimated Cost (Rs)</th>
<th>Revised Cost (L)</th>
<th>Actual Cost (Rs)</th>
<th>Cost-Overruns Cost runs (as %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Gorinda Sugar Mills Expansion</td>
<td>1979</td>
<td>3.25 crs.</td>
<td>-</td>
<td>400 crs.</td>
<td>0.75 crs.</td>
</tr>
<tr>
<td>2</td>
<td>The Abohar Cooperative Spinning Mills Ltd., Abohar</td>
<td>1982</td>
<td>6.79 crs.</td>
<td>8.94 crs.</td>
<td>684 crs.</td>
<td>2.19 crs.</td>
</tr>
<tr>
<td>3</td>
<td>Markfed Modern Rice Mills, Rajpura</td>
<td>1973</td>
<td>8.90 lakhs</td>
<td>-</td>
<td>1299 lakhs</td>
<td>2.09 lakhs</td>
</tr>
<tr>
<td>4</td>
<td>Markfed Cotton-seed Processing Factory, Udderbah</td>
<td>1975</td>
<td>86.401 lakhs</td>
<td>-</td>
<td>110.001 lakhs</td>
<td>23.501 lakhs</td>
</tr>
<tr>
<td>5</td>
<td>Markfed Cotton Ginning and Pressing Factory, Atmala</td>
<td>1976</td>
<td>26.001 lakhs</td>
<td>-</td>
<td>26.231 lakhs</td>
<td>0.23 lakhs</td>
</tr>
<tr>
<td>6</td>
<td>Markfed Refined Oil and Allied Industries, Agra Police</td>
<td>1976</td>
<td>111.641 lakhs</td>
<td>128.001 lakhs</td>
<td>142.301 lakhs</td>
<td>27.961 lakhs</td>
</tr>
<tr>
<td>7</td>
<td>Markfed Cotton Ginning and Pressing Factory, Jaitu</td>
<td>1980</td>
<td>34.481 lakhs</td>
<td>37.001 lakhs</td>
<td>55.001 lakhs</td>
<td>23.311 lakhs</td>
</tr>
<tr>
<td>8</td>
<td>Markfed Cotton Ginning and Pressing Factory, Sardulgarh</td>
<td>1980</td>
<td>27.841 lakhs</td>
<td>37.001 lakhs</td>
<td>50.001 lakhs</td>
<td>22.361 lakhs</td>
</tr>
<tr>
<td>9</td>
<td>Markfed Modern Rice Mill, Rajpura Expansion</td>
<td>1981</td>
<td>24.701 lakhs</td>
<td>-</td>
<td>33.001 lakhs</td>
<td>8.30 lakhs</td>
</tr>
<tr>
<td>10</td>
<td>Markfed Vanaspati and Allied Industries, Khanna Expansion</td>
<td>1982</td>
<td>57.57 lakhs</td>
<td>-</td>
<td>81.571 lakhs</td>
<td>24.007 lakhs</td>
</tr>
</tbody>
</table>

**Punjab State:**

- The Rohtak Cooperative Sugar Mills Ltd., Expansion 1968: 8.50 lakhs 16.00 lakhs 7.00 lakhs 86.1
- The Rohtak Cooperative Sugar Mills, Expansion 1977: 1.65 crs. 2.25 crs. 0.60 crs. 21.9
- The Panipat Cooperative Sugar Mills, Expansion 1977: 1.50 crs. 2.15 crs. 0.70 crs. 13.6
- The Karnal Cooperative Sugar Mills Ltd., Karnal 1977: 3.50 crs. 5.25 crs. 6.09 crs. 2.59 crs. 47.3 (5.80 crs.)
- The Somepeth Cooperative Sugar Mills Ltd., Somepeth 1977: 4.50 crs. 5.25 crs. 6.24 crs. 1.04 crs. 45.3 (5.15 crs.), (6.05 crs.)
- The Hansi Cooperative Spinning Mills Ltd., Hansi 1977: 4.70 crs. 4.84 crs. 3.14 crs. 20.6

**Notes:**
1. Figures in brackets in the column revised cost corresponding to The Karnal Cooperative Sugar Mills Ltd., show the re-revised cost.
2. Rice-shellers at Shahabad, Karnal and Dhand have been set-up by the HAFED itself. Estimated costs of these units were not available. Other rice-shellers have been taken on lease and hence could not be included in the Table.
3. The Janta Cooperative Sugar Mills Ltd., The Batala Cooperative Sugar Mills Ltd., The Morinda Cooperative Sugar Mills Ltd., and The Doaba Cooperative Sugar Mills Ltd., were set-up in the years 1957, 1963, 1963 and 1968 respectively. The estimated costs of these units were not available and hence could not be included in the Table.
IMPACT OF COST OVER-RUNS ON THE PROFITABILITY OF A PROJECT

Profitability at projected figures

Cost/sales in value

Profit
Sales
Total cost

Fixed cost

Units of output

FIG. 2.2A

Profitability after cost over-runs

Cost/sales in value

Loss
Sales
Total cost

Fixed cost

Units of output

FIG. 2.2B
Time Over-runs:

The Table 2.2 clearly shows the extent of time-over runs, which in certain cases is quite alarming. Maximum time over-runs occurred in the case of Markfed Cotton Ginning and Pressing Factory, Sardulgarh (categorised as medium and small processing cooperative by the NCDC), in which case, the completion period exceeded the budgeted one by four years and two months. The delay was caused due to the failure of project authorities to complete the civil work in time, delaying the despatch of machinery by the supplier and its erection. The machinery supplier brought this fact to the notice of project authorities and its (suppliers') inability to supply the plant at agreed price beyond January 1980. Such enormous delay in completing the project resulted in pushing the project cost up by 79.59%.

Next in this category are Markfed Cotton Seed Processing Factory, Gidderbaha and Rohtak Cooperative Sugar Mills expansion project 1977 and Panipat Cooperative Sugar Mills expansion project 1977, where the completion date exceeded the scheduled date by two years approximately.

Letter No. KBI/A/552/80 dated September 10, 1980 (written by the machinery supplier to the Manager, Projects MARKFED).
Table 1.2

Time-Over Runs in Some of the Projects Under Study

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Name of the Project</th>
<th>Scheduled Date of Commissioning</th>
<th>Actual Date of Commissioning</th>
<th>Time-Over Runs</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.</td>
<td>The Aboder Cooperative Spinning Mills Ltd., Aboder</td>
<td>August, 1982</td>
<td>October, 1982</td>
<td>Two months</td>
</tr>
<tr>
<td>3.</td>
<td>Markfed Modern Rice Mill, Nalpura</td>
<td>March 31, 1973</td>
<td>June 6, 1973</td>
<td>Two months and six days</td>
</tr>
<tr>
<td>4.</td>
<td>Markfed Cotton-seed Processing Factory, Nalana</td>
<td>Early seventies</td>
<td>December 1975</td>
<td>Two years approximately</td>
</tr>
<tr>
<td>6.</td>
<td>Markfed Refined Oil and Allied Industries</td>
<td>January 1976</td>
<td>January 1977</td>
<td>One year</td>
</tr>
<tr>
<td>8.</td>
<td>Markfed Cotton Ginning and Pressing Factory, Jaitu</td>
<td>December 1976</td>
<td>February 1981</td>
<td>Four years and two months</td>
</tr>
<tr>
<td>9.</td>
<td>The Rohtak Cooperative Sugar Mills Ltd., Rohtak</td>
<td>November 15, 1956</td>
<td>January 31, 1957</td>
<td>Two months and fifteen days</td>
</tr>
<tr>
<td>10.</td>
<td>The Rohtak Cooperative Sugar Mills Expansion</td>
<td>November 1975</td>
<td>November 1977</td>
<td>Two years</td>
</tr>
<tr>
<td>11.</td>
<td>The Panipat Cooperative Sugar Mills Expansion</td>
<td>November, 1975</td>
<td>November, 1977</td>
<td>Two years</td>
</tr>
<tr>
<td>12.</td>
<td>The Karnal Cooperative Sugar Mills Ltd., Karnal</td>
<td>April 1976</td>
<td>January 1, 1977</td>
<td>One year and nine months</td>
</tr>
<tr>
<td>13.</td>
<td>The Sonepat Cooperative Sugar Mills Ltd., Sonepat</td>
<td>October 20, 1976</td>
<td>June 1978</td>
<td>One year and eight months</td>
</tr>
<tr>
<td>14.</td>
<td>The Hansi Cooperative Spinning Mills Ltd., Hansi</td>
<td>April 15, 1977</td>
<td>July 1977</td>
<td>Three months</td>
</tr>
</tbody>
</table>
Both the latter projects were expected to be commissioned during 1975-76, whereas, these could be commissioned only during the season 1977-78. The delay in commissioning by two years resulted in pushing the project cost up by 21.62% in the case of Rohtak Mills expansion project, and 50% in the case of Panipat Sugar Mills expansion project. Moreover, this resulted into a big loss to the farmers who cultivated sugarcane in anticipation of timely completion. Similarly, delay in completing the Karnal Cooperative Sugar Mills resulted in pushing the project cost up by 65.7%.

Techniques like BAR CHARTS and PERT and CPM were not applied for monitoring the progress of these projects. The total absence of planning in some cases and faulty planning in others accompanied by poor monitoring of progress led to the cost and time over runs which are substantial and alarming in some of the cases. The magnitude of cost and time over-runs in these units clearly shows that both the important aspects of time management and cost control were ignored in most of the cases.

SUMMARY:

In most of the units under study project planning was either missing or faulty and incomplete. In some of the cases factors basic to the success of a project like availability of the raw materials and markets were ignored.
While in some cases the economics of the project was not examined at all, in others the exercise was confined to the working out of absolute figures of profit (HAFED projects and MARKFED projects). Even the simple accounting rate of return was not worked out to see whether the project gives minimum required rate of return or not. None of the Discounted Cash Flow Techniques was applied in any of the units under study, not even in the case of The Hansi Cooperative Spinning Mills Ltd., Hansi and The Abohar Cooperative Spinning Mills Ltd., Abohar, the project reports of which were got prepared from the consultants. The management of the units under study did not appreciate the utility of taking into account the time value of money while setting-up these units.

The magnitude of cost and time over-runs is alarming in some of the cases. The following reasons were found responsible for it:

(i) Faulty planning particularly with regard to project cost and fund requirements;
(ii) Delay in decision-making in giving final approval to the project;
(iii) Delay in sanctioning funds;
(iv) Shortage of other resources required for completion of the project;
(v) Inefficiency in implementation and poor monitoring of the progress.
Cost over-runs pose problems of arranging additional funds and increased interest charges and may go to the extent of making a viable project unviable. Additional interest charges would leave lesser profits to be distributed as patronage-dividend amongst the grower-members and growers may be tempted to sell their produce to the private trade rather than selling it to the processing cooperative.

Delay in the commissioning of a cooperative agro-processing plant would also shake the confidence of a large number of member-growers in it. A large number of small farmers have grown a particular crop in anticipation of its purchase by the processing cooperative, the absence of which would cause ruin to the economy of such a large number of farmers. For example, if a sugar mill project with the daily capacity of 1250 tonnes is delayed by one season, cane price and length of crushing season being assumed ₹ 20 per quintal and 150 days net, it would result into a loss of revenue of ₹ 375.00 lakhs to the growers. Assuming an average yield of 50 tonnes per hectare and average cane holding of 5 acres per farmer the delay would affect directly 1875 farmers, besides, an indirect loss to a large number of farm labourers.
Such a loss of faith and confidence in the grower-members especially in the beginning of a processing cooperative may prove fatal for it, as it has to depend on a large number of growers for getting raw material supplies. So every effort should be made to ensure that these projects are properly planned and completed in stipulated cost and stipulated time.