

Notes by-

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CONSTRUCTION MANAGEMENT

ASSIGNMENT NO. 01

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Assignment NO. 1

14/07/2003.

Q.1] Explain the role of construction industry in economic development of the country.

The construction industry is one of the oldest and largest industry. Construction activity provides employment on a large scale. The use of machines & equipment, which have become part & parcel construction in modern times has only reduce the time of constⁿ & no. of people engaged in constⁿ but also include the quality of the constⁿ & materials. The constⁿ of High rise str., buildings, dams & metro-trains, cable stayed bridge, high chimanies etc. are now undertaken easily because of the availability of the equipments & machies. In the most of the developed countries, scientific tools such as constⁿ mgt. techniques are used, while in developing countries very little modernisatⁿ has taken place in this industry.

These countries still continue with the traditional labour intensive style of constⁿ which is time consuming & does not match quality requirements demanded in constⁿ. If constⁿ project schedules are not maintained, the cost increases by leaps & bounds. While it is true that in the third world countries with a high population, it is not appropriate for complete vacanizatⁿ of constⁿ, it must be realised that the use of plants & machinaries sometime becomes absolutely necessary for certain type of constructⁿ & to ensure good qualities. Therefore no politics with labour unions or

otherwise ~~we~~ should be allowed to cause any delay & stoppage of work under the pretext of loss of employment due to the use of machine.

Thus, the use of plants & machinaries & the adoption of the latest constⁿ methods should be essential features of the constⁿ industries in modern time.

Constuction & national development:-

Duration	Plan	% of total Development Budget
1951-1956	First	50.4
1956-1961	Second	42.6
1961-1966	Third	43.3
1966-1974	Fourth	43.4
1974-1979	Fifth	43.4
1980-1985	Sixth	56.2
1985-1990	Seventh	40.6

Q. 2] What do you mean by planning? Why planning is important in CM? Explain stages of planning.

Planning:-

The managerial function of deciding 'what to do?', 'How & when to do?' is known as planning.

The planning releases on sound judgement based on knowledge & experience as well as mathematical or statistical methods. In planning

constⁿ work, various alternative mtds. of tackling the works are studied & decisions are taken not only about the work as a whole, but for each part or section of the work regarding the time & inspectⁿ & completion, labour, matl., machines & finance needed & arrangement to be made for the provision of constⁿ facilities from time to time. Planning also takes care of the likely uncertainties in the execution due to various unpredictable factors, such as weather, difficulties in the procurement of materials in short supply, price fluctuation, absenteeism of labour due to festivals, illness etc.

Stages of planning:-

- a) Pre tender planning
- b) Post tender planning

a) Pre tender planning:-

The planning undertaken by the contractor after receipt of tender notice & before submitting a bid is known as pre tender planning.

Planning at the pre tender stage involve the following stages:

- i) Careful study of drawing & other information to find out the quantities of each item of work, the time limit & other conditions of the work.
- ii) Working out the quantities & types of items reqd. as well as determining the availability of matl., labour, machines, equipment & other facilities

like camp office, testing facilities etc.

- iii) Examining diff. mtds. by which the work could be undertaken so as to find out the most economical method.
- iv) Studying the bidding trends of the known competitors.
- v) Considering the profit margin & limit of risk that could be taken.
- vi) Deciding on the amount of bid & submitting the tender documents.

b) Post tender / Contract Planning :-

After the tender has been accepted, the contractor has to undertake further intensive planning. This stage of planning is known as post tender planning.

The contract planning involves following steps:-

- i) Studying alternatives to the ~~construction~~ mtd. decided at the pretender stage of contract so as to arrive at the most economical one & decided about subcontracting.
- ii) Working out the quantities of material reqd. at each stage of contract, locating the source of supply & studying the capacity of suppliers & the comparative cost from various sources
- iii) Work out the details requirement ~~of the machinery & equipment~~ for constⁿ, labour, supervisor & managerial personnel at various stages of the contract & arranging for their selection & requirement.

- 4) Working out the detail requirement of machinery & equipment at various stages of work. Some may have to be ~~purp~~ purchase & other hired. Arranging for repairing & maintenance & service facilities.
- v) Planning the location, type & other details of camp, office, service roads, layout of the sites, temporary accommodation for labour & staff facilities for drinking water. & arranging for transport.
- vi) Studing the interdependance of the different items of the work & arriving at proper sequence of operations.
- vii) Finalising the work programme for each item of work & fixing the dates for inspection & completion of each item of the work.

3] What are the resources required for constⁿ work?

Resources required for constⁿ work are -

- 1) Man
- 2) Materials
- 3) Machinery
- 4) Money
- 5) Time.

1] State & explain functions of Construction mgt:

Functions of constructⁿ mgt:-

- 1) Planning
- 2) organising
- 3) staffing
- 4) Directing

5) Controlling

6) Coordination

* Q. 5] Write a short note on qualities & responsibilities of constⁿ manager.

All this will lead to improvement of quality of the product of organisation. All the sections of the organisation such as design, materials selection, production, relations have to participate in programme in improvement of the quality.

It should be borne in mind that the quality is the responsibility of all these who are working in the organisation from the top boss - the General Manager to downside worker & all working in between.

Qualities of a constructⁿ manager:-

- 1) He should be a good communicator.
- 2) He should maintain good relationships in the team.
- 3) He should motivate the staff.
- 4) He should take decisions in time.
- 5) He represent the total progress of work.
- 6) He should select proper materials.
- 7) He should be communicator & coordinator.
- 8) He should improve quality of work with progress.

Q. 6] State advantages of planning with respect to client / owner, Engineer/Consultant, Builder/Contractor.

Advantages of planning with respect to —

a) The owner / client :-

It is an individual, group, private or public body which promotes the work and provides finance & facilities for its execution. After execution & completion of the work the owner arranges for the proper utilization & maintenance of the work.

b) The engineer / Consultant :-

It is the responsible for economical & safe design & construction of the work, under his supervision. His field of activities includes estimation; approval of construction plans by the local authority, tendering, supply of materials, as per contract control & inspection of the quality & progress of work done by contractor, measurement of work done & payment. In case of the work is got done departmentally, the engineers also arranged for construction facilities like labour, material & equipments etc.

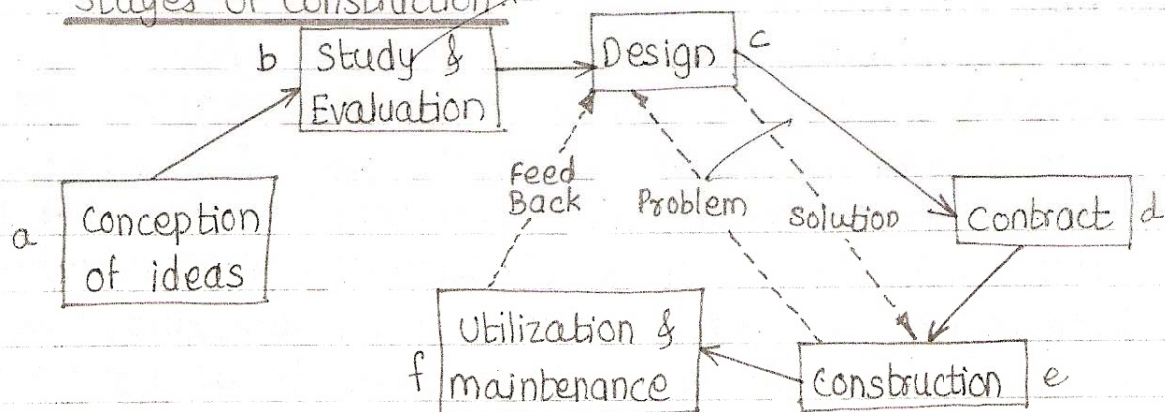
The engineers may be appointed by architecture, town planners & other specialists, if necessary for proper design. For building work executed by private parties, the work may be undertaken by the architect. He may seek the advice of engineer in structural design, estimation etc. The Engineer may also need the assistant of accounts, administrative personnels & others. Sometimes legal assistant may also be required. A single engineer to be handle a number of small work, but for larger works, a team

of engineers is needed, each specialised in particular field, such as designing, planning, work study etc.

3] The builder / contractor:-

It may be any work for a small contractor to a large constⁿ company undertaking project worth cores of Rs. & agency of the owner itself may be the builder, when the work is said to be carried out departmentally. The small contractor may really on his own experience & judgement or the advise of experienced trades mans (mistri). In the tendering & execution of works but this may not yield good result. A contractor of any importance must seek assistance of quality engineers. Engineers are often employed by constⁿ firm as executives & managers. Some of the engineers in the contractor firms deals with the office work involved in large contracts, such as designing, tendering & scheduling and may work in head quarters.

stages of construction:-



a & f are responsibility of owner.

b & c are responsibilities of Engineer.

d & e are responsibilities of contractors.

Responsibilities of construction manager: →

- 1) To motivate the staff to perform the best of their abilities & to prevent demotivation.
- 2) To delegate tasks, thus giving themselves more time to manage & develop staff.
- 3) To plan & control the activities within their domain to ensure that objectives are met.
- 4) To take decision in order to help the team.
- 5) To initiate & encourage ideas from team.
- 6) To recruit the right staff for the team.
- 7) To manage problem, not to solve them all, but to help the team reach acceptable solution.

1] Planning:-

Planning is the most important part of construction management. Without proper planning successful completion of any project will not be possible. The objective of planning is to complete the project in a better manner in proper time and to make logical decisions which will lead to understand the complexity of situation in execution in better way.

2] Scheduling:-

Scheduling is the sequencing the different independent tasks with their time relationship with reference to each other. With the available manpower & other resources the time duration for each individual tasks will have to be determined.

3] Controlling:-

The planning & scheduling form two important steps before the actual project commences. The controlling phase starts after the project starts & is undertaking during the conduct of the different project operations, activities or tasks.

4] Organising:-

The basic and important process of mgt. is organisation. This function of mgt. related to creation of an organisation, set up capable & responsible person for the execution of plan activity. Formation of an organisation requires the creation of certain specific inter relationship among the group members & performance of work.

5) Staffing:-

Staffing as a mgt. function not only involved the proper selection of staff but includes in services, training which should not only keep them up to date in their works but trained to tackled problems. All managers have a responsibility for staffing. In competitive era the entire mgt. revolves an efficient & adequate staffing.

6) Directing:-

This is a managerial function involving motivation, guiding, supervising of an organisation employees. The function is achieve by establishing effective communication between the employees & the mgt. to create & awareness of planned programs & methods to be adopted for their implimentation.

Good

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15/07/03