



SNS COLLEGE OF TECHNOLOGY

Vazhiyampalayam, Coimbatore, Tamil Nadu, 641035

An Autonomous Institution

Approved by AICTE New Delhi & Affiliated to Anna University Chennai

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DEPARTMENT CIVIL ENGINEERING

19CEB302 - CONSTRUCTION MANAGEMENT

III YEAR / V SEMESTER

Unit 2 : CONSTRUCTION PLANNING

Topic 5 : Estimating Resource Requirements for Work Activities





Estimating Resource Requirements for Work Activities



- In addition to precedence relationships and time durations, resource requirements are usually estimated for each activity
- The **total resources** required for the project are the **sum of the resources** required for the various activities.
- By making resource requirement estimates for each activity, the requirements for particular resources during the course of the project can be identified.
- Potential **bottlenecks** can thus be identified, and schedule, resource allocation or technology changes made to avoid problems.



Estimating Resource Requirements for Work Activities



- The initial problem in estimating resource requirements is to decide the extent and number of resources that might be defined.
- At a very aggregate level, resources categories might be limited to
 - The amount of labor (measured in man-hours or in Rupees),
 - The amount of materials required for an activity, and
 - The total cost of the activity.
- At this aggregate level, the resource estimates may be useful for purposes of project monitoring and cash flow planning
- For example, actual expenditures on an activity can be compared with the estimated required resources to reveal any problems that are being encountered during the course of a project.



Estimating Resource Requirements for Work Activities



Mathematically, a typical estimating equation would be:

$$R_{ij}^k = D_{ij} N_{ij} U_{ij}^k$$

where

R_{ij}^k are the resources of type k required by activity ij,

D_{ij} is the duration of activity ij,

N_{ij} is the number of standard staffs allocated to activity ij,

U_{ij}^k is the amount of resource type k used per standard staff.



Thank you...