

CONTRACTS

1. CONTRACTS AND FORM OF CONTRACT

When two or more persons have a common intention communicated to each other to create some obligation between them, there is said to be an agreement. An agreement which is enforceable by law is a “**Contract**”.

According to section 10 of the Indian Contract Act, 1872 only those agreements are enforceable by law which are made by the free consent of parties competent to contract, for a lawful consideration and with a lawful object and are not expressly declared to be void. This is subject to any special law according to which contract should be in writing and attested by witnesses.

The following are the essential ingredients of a contract:

- a. Offer made by one person called the “Promisor”.
- b. Acceptance of offer made by the other person called the “Promisee”.
- c. Doing of an act or abstinence from doing a particular act by promisor for promise a called consideration.
- d. The offer and acceptance would relate to the something which is not prohibited by law.
- e. Offer and the acceptance constitute an agreement, which, when enforceable by law, become a contract.
- f. In order to make a valid and binding agreement, the party entering into such an agreement should be competent to make such agreement.

For the purpose of an agreement, there must be a communication of intention between the parties thereto. Hence in the forms of a Contract there is:

- a. A proposal
- b. Communication of the proposal

- c. A communication of the acceptance of the proposal

A contract is an agreement enforceable by law. It may be noted that the words 'agreement' and 'contract' are very often used as synonyms, but in fact they are not. All contracts are agreements but all agreements are not necessarily contracts; **agreements not enforceable by law are not contracts.**

To be legally enforceable, the agreements must satisfy two things, viz, intention to be bound and consideration. However, according to the Indian contract Act 1872, an agreement is a contract if 'it is made by the free consent of parties competent to contract, for lawful consideration and with a lawful object, and is not expressly declared to be void.

The contract must be definite and its purpose should be to create a legal relationship. A contract creates an obligation i.e. a duty cast upon a person by law. When the parties to a contract exchange promises, it gives rise to a contractual obligation.

TYPES OF CONTRACTS

Contracts for the execution of civil engineering works are of following types:

- a. Lumpsum contract
- b. Item rate contract
- c. Lumpsum and schedule contract
- d. Cost plus fixed fee contract
- e. Cost plus percentage of cost contract
- f. Special contracts

Lumpsum Contract

In this type of contract, the contractor offers to do the whole work as shown in drawings and described by specifications, for a total stipulated sum of money. There are no individual rates quoted, thus it becomes difficult to make adjustments in the contract value if any changes are to be made in the work later on. The schedule of

different items of work is not provided and the contractor has to complete the work as per drawings and specifications for the agreed lump sum amount.

Deposit of 10 % security money and other conditions of the contract are included in the contract agreement. Upon the completion of work, a fixed lumpsum amount is paid to the contractor. Detailed measurements of different items are required but the whole work is compared and checked with drawings and specifications before releasing the payment. In large projects, part payments are made to the contractor at different stages of work on money agreed terms. In case the contractor stops the work in between he is not entitled for any further payment.

Suitability

A lumpsum contract is more suitable for works for which contractors have prior construction experience. This experience enables the contractors to submit a more realistic bid. This type of contract is not suitable for difficult foundations, excavations of uncertain character, and projects susceptible to unpredictable hazards and variations.

Merits

- i. The owner can decide whether to start or shelve the project knowing the total lumpsum price quoted by different contractors.
- ii. The contractor can earn more profit by in-depth planning and effective management site.

Demerits

- i. Before the contract is awarded, the project has to be studied thoroughly and the complete contract documents has to be prepared in advance.
- ii. In this type of contract, unforeseen details of work are not specified in the contract document. Many additional items

may have to be undertaken as the work progresses, giving opportunity to the contractor for claiming higher rates of the extra items not included in the contract agreement.

Item Rate Contract

Also called a schedule contract, in this contract, the contractor undertakes the execution of work on an item rate basis. The amount to be received by the contractor, depends upon the quantities of various items of work actually executed. The payment to the contractor is made on the basis of detailed measurements of different items of work actually done by him.

Suitability

The item rate contract is most commonly used for all types of engineering works financed by public or government bodies. This type of contract is suitable for works which can be split into various items and quantities under each item can be estimated with accuracy.

Merits

- i. In this type of contract, there is no need for detailed drawings at the time of allotting contract as in the case of lumpsum contract. The detailed drawings can be prepared after the contract is awarded.
- ii. Changes in drawings and quantities of individual items can be made as per requirement within agreed limits.
- iii. The payment to the contractor is made on the actual work done by his at the agreed rates.

Demerits

- i. The total cost of work can only be known upon completion. As such, the owner may incur financial difficulty if the final cost increases substantially.

- ii. Additional staff is required to take detailed measurements of work done for releasing payments to the contractor.
- iii. The Scope for additional saving with the use of interior quality materials may prompt the contractor to use such materials in the work.

Lumpsum and Scheduled Contract

This is similar to the lumpsum contract except the schedule of rates is also included in the contract agreement. In this type of contract, the contractor offers to do a particular work at a fixed sum within a specified time as per plans and detailed specifications. The schedule of rates for various items is provided which regulates the extra amount to be paid or deducted for any additions or deletions made during the progress of work. Measurements of different items of original work are not required but extra items are required to be measured for payment. The original work shall however be checked and compared with the drawings and specifications.

Suitability

This type of contract is more suitable for construction works for which contractors have prior work experience and can consequently estimate the project cost more realistically.

Merits

- i. In this type of contract, additional staff for recording detailed measurements of original item of work is not required for making payment to the contractor.
- ii. The owner can know from tenders as to what the project will cost him. Knowing the financial implications, the owner can decide to start or defer the project.

Demerits

- i. Before the contract is awarded the project has to be studied thoroughly and all the contract documents are required to be completed in every respect.

- ii. The non-scheduled extra items arising out of changes made in the drawings and specifications are often a source of dispute because the contractor presses for rates higher than the prevailing market rates.

Cost Plus Fixed Fee Contract

Cost Plus fixed fee contract is desirable when the scope and nature of the work can atleast be broadly defined. The amount of fee is determined as a plump sum from a consideration of the scope of work, its approximate cost, nature of work, estimated time of construction, manpower and equipment requirements etc. In order to negotiate such a type of contract, it is essential that the scope and some general details of the work are defined. The contractor in this type of contract is selected on the basis of merit rather than the fee alone. In case of cost plus percentage contract, the contractor has a tendency to increase his profit by increasing the cost of work. But this drawback is overcome in cost plus fixed fee contract because here the contractor's fee is fixed and does not fluctuate with actual cost of work. Once this fee is fixed, the contractor cannot increase the cost of work.

Suitability

- i) This type of contract is suitable for works required to be completed expeditiously and where it is difficult to foretell what difficulties are likely to be encountered.
- ii) This contract is also suitable for important structures where the cost of construction is immaterial.

Merits

- i) In this type of contract, actual cost is to be borne by the owner. Therefore, the contractor performs the work in the best interest of the owner resulting in good quality work.
- ii) The work can be taken in hand even before the detailed drawings and specifications are finalised.

- iii) Changes in design and method of construction if needed can be easily carried out without disputes.
- iv) The work can be executed speedily.

Demerits

- i) This form of contract cannot be adopted normally in case of public bodies and Government departments.
- ii) The final cost of the work is not known in advance and this may subject the owner to financial difficulties.

Cost Plus Percentage of Cost Contract

In this type of contract, instead of awarding the work on lumpsum or item rate basis, it is given on certain percentage over the actual cost of construction. The actual cost of construction is reported by the contractor and is paid to him by the owner together with a certain percentage as agreed earlier.

The contractor agrees to do the work in accordance with the drawings, specifications and other conditions of contract. In this type of contract, proper control has to be exercised by the owner in the purchase of materials and in arranging labour.

The suitability merits and demerits of this type of contract are similar to cost plus fixed fee contracts. An additional demerit is the tendency of the contractor to increase the cost of work to earn profit by way of percentage of enhanced actual cost.

Special Contracts

There are certain contracts which are used at different occasions. Some of these contracts are listed below:

- ✓ Turn-key Contract
- ✓ Package Contract
- ✓ Negotiated Contract
- ✓ Continuing Contract
- ✓ Running Contract

(i) Turn-key Contract

A turn-key contract is an integrated contract in which all works pertaining to various disciplines such as civil, electrical, mechanical etc. are in the hands of a single contractor called the main contractor. The main contractor can sublet the contract to sub-contractors who are specialists in their respective fields.

In this contract, the main advantage to the owner is that he need not coordinate the work of different contractors. The main contractor is responsible for all kinds of jobs starting from planning to commissioning stage. The owner takes over the entire work (which is fully operational and of proven performance) from the main contractor.

(ii) Package Contract

In a package contract, two or more related jobs, each of which could form a separate contract are combined in a single contract. In the field of civil engineering, generally, design and development are combined with construction and supply or maintenance.

In this type of contract, plan of work and standards are established and the work is carried out accordingly by the contractor. The main contractor is responsible for safeguarding the owner's interest and for this reason, prior approval of design and technical aspects have to be taken from the owner. Responsibility for correctness of the design lines with the main contractor.

(iii) Negotiated Contract

In this type of contract, negotiation across the table takes place between representatives of the owner and the main contractor for project cost and other conditions of contract. In this type of contract, detailed projects specifications are arrived at by discussions between the owner and the main contractor and consultant.

A negotiated contract involves extended discussions for finalization as a competitive contract. Most of the consultancy projects of World Bank are negotiated contracts.

(iv) Continuing Contract

In this type of contract, new or additional work is awarded to the contractor on the basis of agreed terms and conditions of an existing contract. Such contracts do not require re-tendering and hence can save time and money.

(v) Running Contract

Such contracts provide goods and services at specified intervals or as and when required by the owner. The contract price is not fixed and payment is based on goods supplied and services rendered as specified in the contract documents.

III. Contract Documents

The contract document consists of the contract agreement (on non-judicial stamp paper of prescribed value) and the following set of documents, each page of which is signed both by the owner and the contractor.

- a) Cover Title Page: It contains the name of work, name of owner, name of contract, contract agreement number, contents etc.
- b) Contents Page: It contains the contents of the agreement with page references.
- c) Notice Inviting Tender (NIT): It contains a brief description of work, estimated cost of work, date and time of receiving the tender, amount of earnest money, security money, time of completion etc.,
- d) Tender Form: It comprises bill of quantities, contractor's rates, total cost of work, time for completion, security money to be deposited and penalty clauses etc.
- e) Schedule of Issue of Materials: It contains the list of materials to be issued by the department or owner to the contractor with rates and place of issue.

- f) Drawings: These comprise a complete set of fully dimensioned drawings including plans, elevations, and sections detailed drawings and site plan.
- g) Specifications: It is not practicable to include detailed information of each item of work in the limited space of description in the bill of quantities. As such detailed specifications form a part of the contract agreement. Specifications should be clear and precise covering all items of the bill of quantities. Following specifications are normally included in the contract document.
 - i. General Specifications: These specify the class and type of work quality of materials etc, in general for the work as a whole.
 - ii. Detailed Specification: These give detailed description of each item of work including material and method to be used along with quality of workmanship required.
- h) Conditions of Contract: The terms and conditions of contract specify the following.
 - i. Rates of each item of work inclusive of materials, labour, transport, plant/equipment and other arrangements required for completion work.
 - ii. Manner of payment of contractor including running payment final payment, refund of security money etc.
 - iii. Time of completion of work.
 - iv. Proportionate progress to be achieved.
 - v. Penalty for poor quality and unsatisfactory work, lack of proportionate progress and for delay in completion.
 - vi. Extension of time for completion of work.
 - vii. Engaging other agency at contractor's cost and risk.
 - viii. Termination of contract.
 - ix. Subletting of the work.
 - x. Changes in design/drawings etc and valuation of variations.

xi. Arbitration for settlement of disputes.

In addition to the above, performance and payment bonds are also sometimes considered as part of the contract document. All the above stated documents collectively constitute a contract document. The documents are considered together for the purpose of contract interpretation, giving rise to meaning and effect to each part of the contract. In general, the intention of contracting parties is determined from the contract executed by them. The contractor should carefully read and understand the contract before executing the work.

Specifications – Definition and Explanation

Specifications are statements which describe the nature and class of work, materials to be used, labour to be employed, method of work, precautions to be taken, quality of workmanship etc. The cost of the work depends much upon the specifications. The nature of work can be easily understood from the study of specifications. The drawings of a building or structure show the arrangement of rooms and dimensions (length, breadth and height) and include a brief description of the different parts. Drawings do not furnish the details of different items of work, the quantity of materials, workmanship etc., which are all description in the specifications. Specifications serve the following purposes:

- i. Guide the bidder at the time of tendering for arriving at a fair price for the work involved.
- ii. Provide guidance for execution and supervision of work and purchase of materials.
- iii. State the acceptance criteria for different items of work.

Specifications are of the following Types

- Contract Specifications
- Guide Specifications
- Standard Specifications

(a) Contract Specification: The specifications prepared for a particular job to accompany the working drawings are contract specifications. These are further classified at:

- General Specifications
- Detailed Specification

General Specifications are also called brief specifications. These give a general idea of the class and type of work giving brief descriptions of materials, quality and workmanship.

Detailed specifications provide a detailed description of each item as per schedule of quantities, specifying the materials to be used including their proportions, method of work quality of workmanship required etc. The specifications are written, as far as possible, in the same sequence or order in which the work is carried out.

(b) Guide Specifications: These specifications provide a guideline for preparing contract specifications and give a broad idea about class and type of construction for a particular purpose.

(c) Standard Specifications: These specifications are prepared for various materials or group of materials for the guidance of all concerned with construction or construction industry. These specifications include methods of manufacture methods of tests, code of practice etc., Indian Standards Institution and other such institutions have prepared a wide range of standard specifications.

(d) Manufacturer's Specifications: Manufacturers prepare specifications of their products for the guidance of users. These specifications also include installation instructions and other guidelines for use and maintenance of products. These specifications are generally provided in the form of manuals. Clear understanding of specifications plays a vital role in the successful completion of a construction project.

ENLISTMENT OF CONTRACTORS

PROCEDURE FOR ENLISTMENT OF CONTRACTORS

Before entering into contract with the Public Works Department, every individual or firm is required to register himself as a contractor, after paying the registration fee, for taking up works in the appropriate classes of registration. The copy of rules for registration of contractors is supplied to the contractors on payment of Rs.5/- plus sales tax.

Fee for application and Registration

Classification of Contractor	Money Limit	Application Fee	Registration Fee
a. For works at Divisional Level Class V upto Class IV upto	Rs.40,000 Rs.1 lakh	Rs.5/-	Rs.50/-
b. Circle Level Class III upto	Rs.2 lakhs	Rs.10/-	Rs.100/-
c. State Level Class II upto Class I upto Class I above	Rs.5 lakhs Rs.10 lakhs Rs.10 lakhs	Rs.10/-	Rs.200/-

The above fee will not be refunded under any circumstances. Interested ayacutdars and beneficiaries are exempted from Registration fee, works upto Rs.10,000/- for irrigation and Rs.5000/- for buildings. The registering authority for class IV and V will be Executive Engineer and for the rest Superintending Engineer.

Following are exempted from the Registration Fees:

- i. Scheduled Castes and Scheduled Tribes.
- ii. Repatriates from Burmah and Ceylon.
- iii. Labour contract co-operative societies.
- iv. Industrial co-operative societies.

The registration of a contractor for works in a division or a circle is on a territorial basis and as such separate registration is not

necessary in a special division or special circle of the same department, for taking up works lying in the territorial area covered by the first registration. For taking special works in places outside the area of his registration, the contractor should register himself in the special circle. Contractor may register themselves in more than one territorial unit of division or circle of the same department after payment of the requisite fee in each case. No contractor shall be permitted to get himself registered under more than one name in the same territorial area. When a contractor has registered as a partner of the 'Firm' he cannot once again be permitted to register his name as a contractor in his individual capacity, in respect of the same business, in the same territorial area. The contractor's application for a higher classification or reinstatement to original class in the case of demoted contractor or resumption to the original status after removal of or suspension will be treated afresh and the application shall be considered on its merits, after the levy of the prescribed fee.

The Registering Authority shall have full powers to reject any application, but before doing so he shall issue a show cause notice to the applicant giving 7 days time and specifying the reasons for the proposed rejection.

The applicants when found satisfactory with reference to their financial standing and other particulars in the application by the enquiry officer, should be given intimation in writing by giving class, area etc. The applicant within 15 days of the receipt of intimation shall remit the registration fee into the treasury and sent the challan. The officer on receipt of challan, shall enlist the applicant in the Register of contractors and inform the applicant and also the officers of the department about that registrant. In token of having read through and understood the standard preliminary specification he is required to sign in the Tamilnadu standard specification.

The status of the contractor, especially his financial soundness should be checked annually by the registering authority, for weeding

out from the approved list, such contractors are have not secured any work during three consecutive years. The Registering authority may demote a contractor to a lower class, if he fails to execute a contract or proved to be responsible for defective construction, or his financial position is not good, or found to violate any important contract conditions etc. as to justify his demotion. The fact of demotion need not be sent to the contractor but the registering authority shall intimate to the Chief Engineer through the next higher authority.

The Registering authority may remove the name of contractor from the approved the list, if the contractor

- i) fails to secure any work during three consecutive years.
- ii) has on more than one occasion failed to execute contract.
- iii) persistent violation of important conditions of contract.
- iv) violation of Labour act etc.

The decision should be taken only after issue of show cause notice and the orders should be communicated to the contractor concerned, and afterwards for other department officers for their guidance. Income tax and sales tax clearance certificates shall be furnished by the contractor and the failure shall prevent the contractor from tendering for works till such time the certificates are furnished.

Jobless or unemployment Engineers should register themselves with any one of the Executive Engineer after paying the prescribed fee for registration. Then only then can avail the concessions entitled for unemployed Engineers.

The solvency certificate required will be

- | | | |
|------|---------------------------|-----------------------|
| i) | Works upto 50,000 | -nil |
| ii) | Above 50,000 upto 2 lakhs | -10% of value of work |
| iii) | Above 2 lakhs | -25% of value of work |

The rules regarding Registration, removal, etc. shall apply to this category also.

CONTRACT – BILLS AND ACCOUNTS

2. Introduction

The payment to the contractors for works or supply or material, road metal and plants etc. are made on the basis of measurements recorded in the measurement books. When the work or supply is completed or sufficiently progressed, the detailed measurements are taken usually by the section officer and recorded in the measurement book and an abstract of quantities are prepared and the cost is calculated at the rate of the contract agreement. From the abstract of quantity and the rate, a bill is prepared for payment.

2. Bill and Voucher

Bill: Bill is the account of work done or supply of materials made and includes the particulars and quantities of work done or material supplied and amount due. Reference to the agreement number, order number are also given in the bill.

Voucher: Voucher is a written document with details which is kept in record as a proof of payment. For any payment, a bill is prepared and payment is made on the bill, duly checked and acknowledged by the payee, by signature or revenue stamp as required and after payment is made, bill becomes voucher which is kept in record.

3. Types of Bills

The various standard forms of bills and vouchers are used for payment, according to the nature of works. White forms are used for running bills and yellow forms are used for final bills. The following are the different types of bills.

- i) First and Final bill
- ii) Running account Bill – form A
- iii) Running account Bill – form c
- iv) Lump sum contract Bill

v) Hand receipt

- i. *First and Final Bill*: This form is used for making payment to the contractor both for works and suppliers, when a single payment is to be made on the completion of the whole work or supply as final payment. This type of bill is generally adopted for petty works or split up works in projects.
- ii. *Running Account Bill – Form A*: This form is used for advance payment without any measurement. It may be used for running bill payment for advance for unmeasured work only or combination of unmeasured work and measured work or if 'on account' payment is to be made but an advance payment already made for the same work is outstanding.
- iii. *Running Account Bill – Form C*: This form is used for contracts both for works executed on piece work system and for suppliers received. This form is widely used specially for medium sized works executed through K2 contract or split up works or projects entrusted on nomination to a number of contractors.
- iv. *Lump Sum Contract Bill*: In the L.S. contract methods, a number of intermediate payments are made in L.S. contract running account bill form before final payment is made. Intermediate payment is made for (i) value of measure up items of work executed forming part of the contract. (ii) value of authorized extra work done on account of additions or modifications in the work executed supported by details in either case.

In the final L.S. bill, the full amount as entered in the contract is paid adding the amount of authorised extras and deducting authorised omission and the intermediate payments already made.

- v. *Hand Receipt*: Hand receipt is a simple form of voucher intended to be used for small miscellaneous payments and advances for which none of the above forms is suitable. The purpose of payment and the designation of the officer making payment duly supported by measurement book entry should be furnished on the hand receipt. No agreement is necessary for payments made through Hand receipt form.

4. Types of payment

Payment to contractors are made in a variety of ways, as listed below:

- i. First and Final Payment
- ii. Running on Interim or 'on account' payment.
- iii. Final payment
- iv. Advance payment

v. Secured Advance payment

- i. First and Final Payment: The term indicates a single payment made for a job or contract on its completion. In this case the payment finished by one payment after the completion of the work. This is usually applicable for small work.
- ii. Running or interim 'on account' payment: This means payment made on a running account to a contractor for works done or supplies made by him, duly measured and entered in measurement book. This is effected when only a part of the whole work or supply has been done and the work or supply is in progress. During the progress of the work, the contractor is paid from time to time.
- iii. Final Payment: This is the last payment made to a contractor on a running account, on completion of this contract and the full settlement of the account.
- iv. Advance Payment: This means the payment made on a running account to a contractor for work done by him but not

measured. Advance payment is not generally made to the contractor, but may be made under special circumstances when the work is sufficiently progressed, but measurement cannot be taken for certain valid reasons. The value of work done shall not be less than the advance proposed. Detailed measurements shall be taken as soon as possible and advance payment adjusted in the final bill.

- v. Secured Advance Payment: This payment is made on the security of materials brought by the contractor to the site of work, when the contract is for the completed items of work. This type of payment may be allowed by the Executive Engineer in the interest of work upto an amount not exceeding 75% of imperishable materials. Lime, sand, paint and varnishes are considered as perishable materials and no advance is permissible.

5. Preparation, Examination and Payment of Bills

The bills for payment shall be prepared with respect to the measurements recorded in the measurement book. All entries in the measurement book with regard to the description and quantities of work or supplies made are checked. Arithmetical calculations of the contents or area are verified. When, the bill is on running account then it is compared with the quantities etc. with the previous bill. It is checked whether deduction in respect of the following have been properly made.

- i) Recovery for advance payment
- ii) Recovery in respect of departmental materials issued to the contractors.
- iii) Hire charges for departmental materials issued to the contractors.
- iv) Amount to be withheld towards security deposit.
- v) Recovery towards penalty for slow progress, non return of empty gunny bags etc.

In case of final bills the field officers should certify about the due fulfillment of contract and satisfactory completion of work.

The memorandum of payment is then made. The competent officer records a formal pay order specifying both in words and figures the net amount payable. However the contractor is required to acknowledge the gross amount payable inclusive of recoveries proposes in the bill.

When the bill is passed for payment, every page containing the detailed measurement will be scored out by a diagonal red ink line. The number and date of the voucher for payment will be entered in the measurement book.

6. Contractor's Ledger

Contractor's ledger is a personal account of a contractor where all transactions regarding the particular contractor are entered. It is maintained in the divisional officer in a prescribed form. All payments recoveries of adjustments etc. are taken in the ledger. Recoveries of debit balance of the ledger should be made from the contractor regularly at the first available chance to avoid accumulation of arrears. For every contractor a separate ledger is maintained and each contractor's ledger is closed and balanced monthly.

The contractor's ledger is maintained by the division and a specimen page of a contractor's ledger is given in Table – 1.

Table – 1

Name of Contractor for the month of

Date	Voucher No.	Sl. No. of Bill	Net Transaction		Name of work or account and particulars of transaction	Gross Transaction		Total upto date value of work or supplies	Remarks
			Advance Payment	Other Transactions		Debit	Credit		

7. Completion Report

When a work is completed and the accounts have been settled a note below the final entries is made in ink. Work completed on20 and this note is signed by the divisional officer. If the total expenditure is in excess of the sanctioned estimate, and if the excess is within the power of the divisional officer, it is passed by him and the certificate to the effect that “effect passed by me” is recorded. A completion plan should accompany a completion report.

8. Completion Certificate

After completion of the work of construction of other department, a certificate for satisfactory completion should be prepared in a prescribed form and got signed by a local head of the department. The completion certificate will read as Certified that works and repairs were completed on20 and that it is in good satisfactory order. The completion certificate is signed by the Assistant executive Engineer and Executive Engineer and then got accepted and signed by the local head of the department, for whom the construction was carried out.

9. Refund of Deposits

The deposits of the contractor and refunded after six months from the date of satisfactory completion of the works or on the expiry of one rainy season. During this period of observation, the contractor is responsible for any defects or mishaps in the works. He shall have to make good all such defects and damages.

10. Maintenance of cash book

The definition of following terms are taken before, the maintenance of cash book is discussed.

- i) *Cash:* The term ‘cash’ as used in accounts includes legal tender coins, cheques, deposit-at-call receipts of scheduled banks and drafts payable on demand. A small supply of

one rupee revenue stamps is also treated as part of cash balance.

- ii) *Debit and Credit:* Debit means expenditure and credit means that the amount is shown as expenditure on the work. Similarly when an amount is credited to a work it means that the amount is to be shown as receipts under the work.
- iii) *Cash Book:* The transactions relating to the actual receipts and payment of cash are recorded in a register known as cash book. The cash book is one of the most important records of the office.

The pages of the cash book are machine number and each page is divided into 'receipt side' and 'payment side'. The receipt side has got five columns and payment side has got seven columns. The specimen page of a cash book is shown in Table – 2.

Table – 2 Cash Book

Receipt Side					Payment side						
Date of Receipt	No of vouchers or receipt	From whom received	Amount Cash	Classification of receipt	Date of payment	No of voucher	To whom paid etc	Payment side		Classification of charges	
								Cash	Bank or Treasury		
									No of Cheque		Amount
1	2	3	4	5	6	7	8	9	10	11	12

Every government officer is personally responsible for the public money with which he deals and for recording the transaction of receipts and payments promptly. Private cash or accounts are in no case to be mixed up with public cash or accounts.

The following instructions are to be followed in the maintenance of cash book

1. Entries should be made continuously and no line should be left blank. If any line is left blank due to the fact that the other side of the folio has been completely written up, a diagonal line should be drawn to cancel the blank space.
2. Interpolation of entries, or over writings must be avoided but, if unavoidable, these must be initiated and dated by the disbursing officer. Erasure of entries is strictly prohibited.
3. Transactions should be entered as soon as they occur in the order of occurrence.
4. If the cash transaction of private cheques received is too many, these may first be entered in a "Register of cheques received and adjusted" and only the totals of daily receipts and remittances entered in the cash book.
5. Every entry must be concise. The date, number of voucher and the name of the work together with a brief description to clearly indicate the nature of transaction must be entered against each item.
6. No receipt other than cash should be entered in the book.
7. When a cheque is drawn to replenish the chest, its number and amount to be entered.
8. When an imprest is given, it should be noted in red ink in the cash book.
9. When amount of unspent imprest is received back, it is shown on the receipt side in red ink.
10. The disbursement of salary of regular establishment is recorded in a separate cash book known as subsidiary cash book.
11. Bills paid and entered in the cash book are known as vouchers. Vouchers are allotted serial numbers in a continuous series each month.
12. It is advisable to check that the cash balance is counted every time a balance is struck or at convenient intervals.

CONTRACTS AND LEGAL ASPECTS

3. THE LAW OF CONTRACTS

The law of contracts in India is contained in the Indian Contract Act, 1872, which lays down the general principles relating to formation, performance and enforceability of contracts and the rules relating to certain special types of contracts such as indemnity, guarantee, bailment, pledge and agency. The Act is, however, not a complete and exhaustive law; some of the special contracts such as those relating to partnership, sale of goods, negotiable instruments, insurance, etc. are dealt with by separate legislations. However, the general principles of contract law are the basis for such special contracts too.

Essential elements of a Contract: From the foregoing discussion, the essential elements of a contract may be enumerated as under:

1. Minimum two parties – At least two parties are necessary to form a contract because one person cannot enter into a contract with himself. To form a contract, one party has to make an offer and the other must accept it. The person who makes the 'proposal' or 'offer' is called the 'promisor' or 'offeror', the person to whom the offer is made is called the 'offeree' and the person who accepts the offer is called the 'acceptor'.
2. Offer and acceptance – There must be an 'offer' and an 'acceptance' to the offer, resulting into an agreement. Both 'offer' and 'acceptance' should be lawful.
3. Intention to create legal obligation – The parties must intend to create legal obligation. In commercial agreements, an intention to create legal relations is presumed, unless the parties have expressly agreed to otherwise.
4. Lawful consideration – An agreement is legally enforceable only when each of the parties thereto gives something and gets

something, that is, consideration. Consideration may be past, present or future, but it must be 'lawful', that is, it must not be illegal or fraudulent or immoral or opposed to public policy, or must not imply injury to the person or property of another.

5. Competent Parties – The parties to a contract must be competent, that is of the age of majority (over 18 years), of sound mind and not disqualified from contracting by any law to which they are subject. Thus, a minor, lunatic, idiot drunkard. etc., cannot, except for some special cases, enter into a valid contract
6. Free consent – All the parties give their free consent, to form a valid contract. Consent means that the parties must agree about the subject-matter of the agreement in the same sense and at the same time. Consent is said to be free unless it is induced by coercion, undue influence, fraud, misrepresentation or mistake.
7. Lawful Object – The object of an agreement must not be fraudulent or illegal or immoral or opposed to public policy or must not imply injury to the person or property of another.
8. Not Expressly Declared Void – An agreement expressly declared to be void under sections 24 to 30 of the Act or under any other law, is not enforceable and is, thus, not a contract. For example, an agreement in restraint of trade or wagering agreements, are not enforceable.
9. Certainty and Possibility of performance – The terms of a contract must not be vague or uncertain. If an agreement is vague and its meaning cannot be ascertained, it cannot be enforced. The terms of a contract must be such as are capable of performance. An agreement to do an impossible act is void and not enforceable at law.
10. Legal Formalities – Generally, a contract may be oral or in writing. However, certain contracts are required to be in writing and may even require registration. For instance, an agreement to pay a time – barred debt must be in writing; an agreement to make a

gift must be in writing and registered. In such cases, these additional formalities must be complied with.

DEFINITION OF TERMS CONNECTED WITH CONTRACTUAL PROBLEMS

1. Agreement – Every promise and every set of promises, forming the consideration for each other, is an agreement. When one person conveys to another his proposal, and that other person assents thereto, the proposal is said to be accepted. A proposal when accepted becomes a promise.
2. Contract – An agreement enforceable by law is a contract. In other words, a contract is an agreement made with an intention to create a legal obligation i.e. a duty enforceable by law.
3. Offer or Proposal – When one person signifies to another his willingness to do or to abstain from doing anything, with a view to obtaining the assent of that other to such act or abstinence, he is said to make a proposal.
4. Acceptance – When the person to whom the proposal is made signifies his assent thereto, the proposal is said to be accepted. In other words, acceptance is the manifestation by the offeree of his assent to the terms of the offer.
5. Consideration – When at the desire of the promisor, the promisee or any other person has done or abstained from doing, or does or abstains from doing, or promises to do or abstain from doing, something, such act or abstinence or promise is called a consideration for the promise.
6. Consent – Two or more persons are said to consent when they agree upon the same thing in the same sense.

IMPORTANT CONDITIONS OF CONTRACTS CONNECTED WITH CONTRACTUAL PROBLEMS

The members of the construction team should be fully aware of their rights and obligations under the contract. they should be

thoroughly conversant with the precise provisions and true importance of each clause in the contract agreement.

Following are in important conditions of contract:

- a. Time of completion.
 - b. Delay and extension of time.
 - c. Penalty
 - d. Compensation for delay in completion of work.
 - e. Liquidated damages.
 - f. Debitable agency
 - g. Valuation of variations
 - h. Settlement of disputes
 - i. Force of nature and natural disasters
 - j. Price escalation
 - k. Termination of contract
- a. **Time of Completion:** The Contractor is required to complete the work within the agreed time of completion which is specified in a suitable unit of time (year, month, week etc) depending upon the nature and scope of work. The contractor is also required to maintain a proportionate progress of work.
 - b. **Delay and Extension Time:** Delay in completion of work not attributed to the contractor should be brought to the notice of the owner by the contractor in writing, within the time specified in the contract, for seeking extension of time. The owner will satisfy himself that the delay is not on account of a lapse on the part of the contractor before granting suitable extension of time.
 - c. **Penalty:** It is a fine imposed on the contractor for non-fulfillment of his contractual obligations such as failure to maintain required progress of work, delay in completion, poor quality or work, bad workmanship etc.
 - d. **Compensation for delay in completion of work:** The contractor is liable to pay compensation to the owner for delay attributed to him in completion of work. The amount of

compensation may be stated as a percentage of the estimated cost of work for each unit of time delay. The maximum limit of compensation may be 10% of the contract price.

- e. **Liquidated Damages:** It is a fixed stipulated sum payable by the contractor on account of penalty for delays and does not bear any relationship to the real damage to the owner. It is generally high and fixed per day for excess period over the specified in the contract for completing the work.
- f. **Debitable Agency:** Whenever the contractor fails to fulfil his contractual obligation in respect of progress or quality of work even after giving due notice by the owner, it becomes necessary to appoint a debitable agency which works at the cost and risk of the contractor. This agency is in the form of labour or other contractor to fulfill the contractual obligations of the main contractor. The expenses incurred are charged from the bill or security of the original contractor.
- g. **Valuation of Variations:** The valuation of variations is based on change orders issued in writing by the owner. Generally, the variation in individual items of work should not be more than 25% and variation in total cost should not exceed 10%.
- h. **Settlement of Disputes:** Efforts should be made to resolve disputes amicably between the owner and the contractor through mutual discussions and negotiations. Arbitration clause may be incorporated in the contract to settle disputes not resolved through mutual discussions and negotiations.
- i. **Forces of Nature and Natural Disasters:** Natural disasters are acts of nature, such as unprecedented floods / rainfall, earthquake, hurricanes, typhoons, fire etc. These disasters along with occurrence of riots, civil commotion, revolt etc. are beyond the control of the contractor and may lead to financial and time loss. The contractor should obtain an insurance policy for such risks as can be covered by insurance. In the event of

financial or time loss, the contractor can claim financial compensation from the owner for risks which are not insurable and an extension of time for all such risks.

- j. **Price Escalation:** During execution of the work, labour wages and material prices may increase as a result of inflation. The contract conditions should therefore, include an appropriate clause for payment of escalation to the contractor. Generally, escalation payments are made for increase in the cost of labour materials and petrol, oil and lubricants (POL) and the percentage of three components are taken as under:

Labour	-	30% of contract price
Materials	-	65% of contract price
POL	-	5% of contract price

The Central Public Works Development (CPWD) adopts the following formulae for computing escalation.

- (i) The compensation for escalation for labour is worked out as per the formula given below:

$$V = W \times Y / 100 \times (L1 - L1o) / L1o$$

V = Variation in labour cost i.e. increase or decrease in the amount in rupees to be paid or recovered.

W = Value of work done

Y = Component of labour expressed as percent of the total value of work (30%)

L1o = Minimum daily wage in rupees of an unskilled adult male mazdoor, as fixed under any law, statutory rule or order as on the last date on which tenders for the work were to be received.

L1 = Minimum wage in rupees of an unskilled adult male mazdoor, as fixed under any law statutory rule or order as applicable on the

last day of the quarter previous to one during which the escalation is being paid.

(ii) The compensation for escalation for materials is worked out as per the formula given below:

$$V_M = W \times X / 100 \times (M1 - M1o) / M1o$$

V_M = Variation in material cost i.e. increase or decrease in the amount in rupees to be paid or recovered.

W = Cost of work done.

X = Component of materials expressed as percent of the total value of work (65%)

$M1$ = All India whole sale index for commodities as

$M1o$ = Published by the Economic Advisor to Govt. of India, Ministry of Industry and Commerce, for the period under consideration, and that valid at the time of tenders, respectively.

(iii) The compensation for escalation for POL is worked out as per formula given below:

$$VF = W \times Z / 100 \times (FI - FIo) / FIo$$

VF = Variation in cost of fuel, oil and lubricant i.e. increase or decrease in rupees to be paid or recovered.

W = Component of POL expressed as percent of total value of work as indicated under the special conditions of contract (5%)

$FI \& FIo$ = Average index number of wholesale price of group (fuel, power, oil and lubricants) as published weekly by the Economic Advisor to Govt. of India, Ministry of Industry for the

period under reckoning, and that valid at the time of receipt of tenders, respectively.

The compensation for escalation is normally worked out at quarterly intervals with respect to the cost of work executed during that period.

- k. **Termination of Contract:** The owner can terminate the contract in the event of default or bankruptcy of the contractor and may impose penalty as per the contract agreement. Default on the part of the contractor includes abandoning the work, failure to maintain required progress, non-observance of rules / instructions etc. for which the owner may rescind the contract and impose penalty upto 10% of the estimated cost of work. Due notice must be served on the contractor before termination of the contract.

(4) CONSTRUCTION LITIGATION

Disputes may arise between the contractor and the owner due to the following reasons.

1. Supply of materials from the owner to the contractor.
2. Handling all the site to the contractor.
3. Extra works carried out without contract agreement.
4. Delay in the completion of the work.
5. Substandard work or defective work.
6. Payment to the contractor through running bills.
7. Supply of stores, machineries and the rent for the machineries.
8. Recovery.
9. Availability of drawing and other specifications.
10. Measurements of the works.

The Contractor has the following responsibilities:

1. He must ensure safety of materials, men and machinery on the site and should guard against accidents either to the workers or to the local people.

2. He must ensure quality of the work as required by the owner.
3. He must complete the work within the agreed time.
4. He must ensure the quality of materials which he is receiving from the owner.
5. The contractor should make proper entry of the instructions regarding change of specification or deviation from the sanctioned estimate or drawings.
6. He must make proper entry of the materials received from the owner.

When there is a failure in the responsibilities of the contractor as well as in the responsibilities of the owner, dispute arises and this may in turn lead to litigations.

Jurisdiction of Courts

The courts of the place from where the tender acceptance letter has been issued shall have the jurisdiction to decide any dispute arising out of or in respect of the contract.

ARBITRATION AND LEGAL REQUIREMENTS

INDIAN ARBITRATION ACT 1940

Disputes may arise between the contractor and the owner because of several factors such as recovery on account of alleged delays, defective work or excess consumption of materials etc. The disputes can be settled through litigation in a court of law or, where the contract permits, through arbitration. Arbitration is the process of hearing and determination of a dispute by an impartial referee selected or agreed upon by the parties concerned.

The Indian Arbitration Act was enacted in 1940 and provides for arbitration in the following three cases:

- a. **Arbitration without intervention of a court:** The owner and the contractor enter into an arbitration agreement in

advance or after the dispute has arisen. The dispute is settled through arbitration according to the Act.

- b. **Arbitration with Intervention:** When the owner and the contractor having entered into an arbitration agreement are unable to proceed further in terms of the agreement, the court's intervention is sought for settlement of the dispute.
- c. **Arbitration in Lawsuits:** When a dispute is the subject matter of a lawsuit pending in a court, both parties may agree to settlement of the dispute through arbitration in terms of the Act.

The Indian Arbitration Act 1940 does not control the conduct of the owner and the contractor in deciding the form of the arbitration agreement. The Act does not prescribe the procedure to be adopted by the arbitrator for conducting the proceedings. The arbitrator thus enjoys flexibility in the procedure leading to expeditious settlement of disputes. The Act does not provide for interference with the award given by the arbitrator. The arbitrator is also not bound under the Act to state reasons in support of the award given by him. The award is, therefore, final and can only be challenged in a court of law on questions of law and / or misconduct of the arbitrator.

Advantages of Arbitration

The advantages of settling disputes through arbitration instead of litigation in the courts are as under:

Cost: arbitration is less expensive than litigation.

Speed: disputes are settled much faster (usually within 4 months) through arbitration as compared to lawsuit in the courts.

Convenience: arbitration hearings are fixed considering the convenience of the concerned parties.

Technical Knowledge: both parties have the distinct advantage of appointing arbitrator(s) having technical knowledge and expertise in construction.

Informality: arbitration proceedings are conducted in a relatively informal atmosphere observing certain minimum prescribed legal formalities.

Proceedings in Private Premises: Unlike proceedings in courts which are exposed to the general public, arbitration proceedings are held in private premises, Business interest and reputation of the parties will, therefore, not suffer.

Finality of Award: the award given by the arbitrator is final. It can only be challenged on questions of law and / or misconduct or arbitrator(s).

Arbitration Clause

In view of the advantages of arbitration, most of the construction contracts incorporate a suitable arbitration clause in the agreement. Following are the main provisions of the arbitration clause.

- i. All disputes or claims arising out of or relating to the contract, or the breach thereof, will be settled through arbitration in accordance with the Indian Arbitration Act, 1940.
- ii. The parties may agree to the appointment of a single arbitrator or each party may nominate an arbitrator and the two nominated arbitrators may mutually select an umpire.
- iii. The parties will mutually agree regarding the sharing of arbitration fees and expenses.
- iv. The arbitration proceedings will be conducted by the arbitrator(s) in accordance with laid down procedures at mutually convenient dates and places.

- v. In the event of a difference of opinion between the two arbitrators concerning the award, matter will be referred to the umpire and his decision will be final.
- vi. The arbitration award will be final and binding upon both parties.

Contents in Nutshell

Construction contracts are formalized in the form of a written document which defines clearly the rights and obligations of each party. In engineering contracts, the contractor offers to execute the work for a monetary consideration on certain terms and conditions. A contract is reached when the offer or proposal made by the contractor is accepted by the owner. The elements of a contract consist of offer, consideration and acceptance.

The main types of contracts for execution of civil engineering works include lump sum contract, item rate contract, lump sum and schedule contract, cost plus fixed fee contract, cost plus percentage of cost contract and special contracts. In a lump sum contract, the contractor offers to do the whole work for a total stipulated sum of money and individual rates are not quoted for the various items of work.

Such contracts are more suitable for works for which contractors have prior construction experience and details of the work involved are clearly known. Such contracts are not suitable for difficult foundations and works susceptible to unpredictable hazards and variations. Item rate contracts are also known as schedule contracts. In these contracts, the contractor undertakes to carry out the work on an item rate basis. Payment is made on the basis of measurements of items of work actually executed. Such contracts are commonly used for all types of civil engineering works financed by government / public bodies. Turn key contracts are special contracts in which all works pertaining to various disciplines such as

civil, electrical, mechanical engineering etc. are in the hands of a single contractor called the main contractor.

The contract document consists of the contract agreement (on non-judicial stamp paper of prescribed value) and cover or title page, content page, NIT, tender form, schedule of issue of materials, drawings, specifications (general and detailed) and conditions of contract.

Specifications are statements which describe the nature and class of work, materials to be used, labour to be deployed methods of work, quality of workmanship etc. Specifications directly affect the cost of the work.

Important conditions of contract include time of completion, delay and extension of time, penalty, compensation for delay in completion of work, liquidated damages, debitable agency, valuation of variation, settlement of disputes, force measure, price escalation and termination of contract. During execution of work, price escalation may occur due to increase in labour wages, material prices etc. as a result of inflation. An appropriate clause is, therefore, generally included in the contract agreement. The payment for escalation on labour, materials and POL is usually determined by standard formulae.

Disputes may arise between the contractor and owner during the execution of work because of several factors. These disputes can be settled either through litigation in a court of law or where the contract permits, through arbitration. Arbitration is the process of hearing and settlement of a dispute by an impartial referee selected and agreed upon by the parties concerned. Settlement of disputes through arbitration has many advantages such as less cost, speedy settlement, convenience and informality of proceedings etc. The award given by the arbitrator is final and binding on both parties. It can only be challenged in a court of law on questions of law and / or misconduct of the arbitrator.

PRINCIPLES OF VALUATION

DEFINITION OF COST, PRICE AND VALUE

Cost : It is the expenditure to produce a commodity having a value. In our construction Industry cost means the original cost of the construction including the cost of materials and labour. Hence the cost is a **FACT**.

Price : It is the cost of a Commodity plus additional reward to the producer for his labour and Capital. In our construction industry the original cost of construction with certain percentage of profit. The profit or additional reward may be varied from Builder to Builder, and Business to Business because the Price is a **POLICY**.

Value: Valuation is an opinion or an estimate which will be determined by many factors like the purpose, supply, demand, depreciation, obsolescence etc. Valuation is a function of place, date and purpose.

DIFFERENT KINDS OF PROPERTIES

- * Land and Building
- * Agricultural lands
- * Coffee, Tea, Rubber plantations.
- * Forest
- * Mines and Quarries
- * Stocks, Shares, Debentures
- * Plant & Machinery
- * Jewellery
- * Works of Arts & Craft

PURPOSE OF VALUATION

- * Purchasing for Investment
- * Purchasing for self Occupation
- * Revision of Capitals
- * Interim Reports of Execution of Buildings or other structures.
- * Compensation for land Acquisition
- * Present Value of Old Properties
- * Arbitration
- * Assessing property Tax
- * Income Tax, Wealth Tax
- * Gift Tax, Capital Gains
- * Selling
- * Mortgaging
- * Collateral Security
- * Auctioning

- * Insurance
- * Court fee stamp
- * Partitions
- * Stamp Duty
- * Rent Fixation. etc., etc.

All the above purpose of valuation has been divided into six major categories, each category is discussed in detail.

1. Taxation
2. Finance
3. Industrialist
4. Statute
5. Personal planning
6. Social Responsibilities.

1. TAXATION

a) Income Tax

There is no Income Tax and Capital Gains Tax liability on business enterprise consequent to revaluation of assets.

b) Wealth Tax

Now, wealth Tax is payable by all the assessee except Co-op. Societies, social club, political parties, specified mutual fund and non profit objective institution.

From Assessment year 1993-94 there is no Wealth Tax Liability on unlimited value of Wealth in the form of shares in the company as these assets are outside the purview of Wealth Tax.

For the very first time from assessment year 1993-94 agricultural land and farm houses are going to be taxed. Similarly surplus land/unbuilt areas of factory would also be taxed.

To avoid excess payment of wealth tax and/or recovery it is desirable to get valuation done of agricultural land and farm houses as well as vacant land and surplus land with specific regulations governing those properties.

c) Gift Tax

To avoid wrong computation of gifts made it is desirable to have a valuers report. It would help to avoid payment of excess tax, penalties and prosecution. This is very important whenever movable/immovable properties are transferred to relatives and it is likely to attract provision of deemed gift.

As part of tax planning. Whenever a will is made life interest are created in it, it is desirable to take advantage of valuers report more particularly so whenever assets are inherited.

d) Capital Gain

The New Section 48 of Finance Act 1992 has given a different set of rules to work out Capital gain after ascertaining market value as on 1st April 1981 which is referred as Indexed Cost of Acquisition similarly indexed Cost of Improvement in property is to be considered, thus capital gain shall be on a different principal and as such a valuers report as on 1st April 1981 has become absolutely essential for properties purchased or inherited prior to 1981.

e) Partnership dissolution.

As such any dissolving partnership firm should go in for a valuers report on the day of dissolution and valuation should be done preferably by a registered valuer empanelled with Income Tax Department.

f) Rent vis-à-vis depreciation

Depreciation is not available on the cost of land and as such as a part of tax planning normally land is purchased by one assessee and is given on rent to another assessee. There is always a difference of opinion as to how much rent is to be paid and as such it is desirable to have an expert valuers report on rent to be paid to substantiate your claim.

g) Seizure of Jewellery

To avoid seizure of jewellery at the time of income tax raids, it is desirable to have separate valuation for separate jewellery for each family member. It is mandatory to have valuation done from a government approved valuer, if market value of jewellery exceeds Rupees five lacs.

h) Reassessment unjustified

Under the provision of “Reassessment in Income Tax Law”. A residential house was purchased and along with the return of income tax a valuers report was enclosed. After some time during investigation in other case it was felt that reassessment is necessary because probable agreement value was not the fair market value, however, in the above referred case reassessment was unjustified.

i) Transfer of Property

If you are buying or selling immovable property, exceeding Rs. 10 lacs together with plant, machinery, furniture, fixtures or other things including rights therein like membership of Co-op Society etc. etc. in any of the cities viz. Delhi, Mumbai, Calcutta, Chennai, Bangalore, Lucknow, Amhedabad. Then it is obligatory to the transferor and transferee to obtain permission under section 269 of Income Tax Department.

Under Chapter XXC i.e., Income Tax Acquisition, Supreme Court has given a decision with special reference to “encumbrances and leasors rights etc.” However, has given a directive that Transferor and Transferee should be served a show cause notice to give natural justice to avoid violation of article 14 of the constitution.

It is desirable to substantiate your claim, of correct price with the help of valuers report who is an expert in doing necessary valuation.

2) FINANCE

a) Purchase, sale, take over, merger

Whenever you are purchasing or selling or going in for amalgamation or taking over of a company you may need financial assistance from the bank or otherwise also to avoid addition of unexplained investment it is desirable to justify the transaction by obtaining on exhaustive, detailed valuers report.

b) Term loan or Cash Credit facility

Books of account are reflecting invariably historic depreciated value of machinery and plant, however, which are free from encumbrances, similarly book value of landed properties also appear to be historic because of inflationary trends which are also free from mortgage can be better utilised to avail either term loan and/or cash credit facilities to make company financially healthy.

c) Bank Guarantee

Industrialist, business man, contractor, individual are required on many occasion to offer bank guarantee for different purpose and as such it is desirable to revalue the assets and incorporate them in the books of account to reflect high net worth of the company person soliciting bank guarantee. Revalued assets can be offered as co-lateral security to financial institution for offering bank guarantee.

d) Window dressing

International accounting standard expects to reflect true value of assets in the books of account as a fair business practise which would help share holders of company, vendors of company,

bankers of company to know soundness of company and as such revaluation of assets at a regular interval of three to five years is strongly recommended.

e) Devaluation of rupee

Now that we are approaching free economy and rupee is partially convertible till the time market are settled and our finance position improves effect of devaluation of rupee cannot be ignored more particularly so wherever imported machines were procured prior to devaluation and are installed and where technology has not become obsolete it is desirable to get these machines revalued and bring it to the books of account.

f) New issues

An existing company when intending to go in for expansion and is desirous to go in for public to raise capital, it would be in fitness of the thing to revalue assets prior to launching new issue, thereby increasing intrinsic value of shares. In fact this would help in fixation of higher premium amount charged by promoters attempting to bring public issue.

g) Advance against works contract

In some tenders floated by government departments, public undertaking, advance is given to contractor as he is expected to deploy some machinery for execution of said works. For claiming such advance a valuer report is solicited. In fact machinery deployed need not be new, advance is also given against deployment of old machinery, however, quantum of advance may be different for procurement of new machinery and deployment of old machines.

h) Incentives

While shifting an industry to backward area or no industry zone certain percentage of old machinery is allowed to be shifted

without loss of incentives, however, agency who are offering these incentives have incorporated a condition that value of such machines should not exceed permissible percentage of total capital employed in the industry. In order to substantiate our incentive claim, it is desirable to support it by valuers report.

i) Security deposit for Electric Company

Due to inflation, cost of input for generation of electricity and the increase in government duty and cost of overhead, ultimately increases electricity charges. All electric supply companies are taking security deposit approximately equivalent to three months consumption.

Impact of this deposit is very much felt by heavy power consumers like foundries, heavy engineering industry, continuous process industry etc., etc.

In one typical case an industry has succeeded in offering mortgage of fixed assets by creating a second charge on it, as an alternative to security deposit. In fact second charge was created as assets were already mortgaged to the bank and liability of the bank was less than actual market value of assets.

INDUSTRIALIST

a) Foreign Collaboration

If one is making an attempt to have foreign collaboration. As part of pre-planning/ preparation it is desirable that assets are revalued and incorporated in the books of account to give better impression of the company.

b) Custom Duty

If a second hand machine is imported the invoice value is disputed by custom authority as they are interested in getting proper revenue for Government. To claim the correctness of invoice value it would be beneficial to have a valuer report.

c) Octroi

Local self governments are levying octroi on goods brought into their area. Percentage of octroi to be levied is incorporated in the rules, however, this levy is based on invoice value and this invoice value is always disputed with a view to increase revenue for local self government. Assessing Officers of octroi are not technical persons and have hardly any expertise, however, valuers empanelled with local self government reports should be obtained in order to make correct payment of octroi.

d) Auction

In advance countries share holders are very vigilant and as such limited companies going in for disposal of capital good and its scrap or residual commodities are auctioned only after soliciting valuer written opinion. With the advent of free economy in our country it is high time that all the public limited companies also fall in line with it.

e) Vacating Premises

Some time it is necessary to delay vacation of premises and such occasion means squaring account of vendor and retrenchment of employee and in all probability closure and winding of unit. Valuers have come to rescue to delay the eviction.

f) Rent of machine

Whenever an imported machine is installed and is used as a hired one, Compensation/rent to be paid is to be justified at any given point of time and can have fluctuations also this is more particularly so when effect of devaluation of rupee is noticed and under these circumstances it is desirable, that a valuer is working out the rent that is just and fair as a compensation for hired machine.

g) S.S.I. registration

Small scale industries are granted necessary registration based on capital employed in fixed assets. S.S.I. registered units have certain advantages from various authorities and as such it is very important to have S.S.I. registration to S.S.I. unit. Valuers opinion is attached as a document to justify that capital employed does not exceed permissible limit.

h) Where there is no bill

Sometime machine are fabricated/tailor made to suit to the requirement of an industry. In fact only direct labour cost of fabrication and material is incorporated. Cost of technical know how and probable profit if it is purchased from outside with various duties is not included in capital assets, it is desirable to do valuation of such machine to incorporate them in the books of account.

i) Adequate and timely insurance

General Insurance business Nationalisation Act 1972 was incorporated making all insurance company as government undertaking with effect from 13th May 1971. Prior to nationalisation underwriting of insurance was done only after assessing insurable interest, commonly referred as sum insured i.e., insurers liability, however, after nationalisation sum insured responsibility is vested with the insurer.

Insured comes to know of this said fact only when claim is made and it is determined as sub standard, either for over valued or under valued and as such it is absolutely must that exhaustive detailed report is forwarded along with proposal form to insurance company to protect desired insurance interest of the insured. Advanced countries are following the system stated above.

4) STATUTE

a) Stamp duty

Under TamilNadu Stamp Duty Act document becomes valid only if necessary stamp is affixed to document prior to its signature and as per Transfer of Property Act, document so executed it to be registered with sub-registrar.

Government of TamilNadu and other state governments has given directive and has fixed price of land by adopting Book of Rates as to how much should be the value for stamp purpose which invariably is the highest amount and not real transaction value and as such to substantiate one's claim one is expected to submit valuers report to avoid excess payment of stamp duty.

b) Land Acquisition Act 1984

Government acquire land for public utility and pay compensation as per Land Acquisition Act 1984.

Even after incorporation of necessary amendments compensation paid to an unwilling seller is very very low and invariably litigation takes places.

Provisions of said Act are so absurd that it does not discriminate large scale acquisition of land and a small property acquired.

Now valuation, is a complex field and has an impact of economy, legal and technical, etc. etc. and as such role of a valuer has become inevitable.

c) Official Liquidator

Official Liquidator solicits values report with a view to understand that if company is in liquidation willingly or unwillingly, if thrown open to market for auction what price it would fetch.

5) PERSONAL PLANNING

a) Charity Commissioner and Registrar of Co-op. Societies

Whenever a charity trust or Co-op Society is buying or selling any capital goods, equipment, factory and/or property one is required to solicit permission in advance and for that purpose valuation report is also solicited.

b) Personal Planning through will

If property is to be transferred to a particular person, interest of life is created through will to avoid legal problems at a later date which is invariably supported with valuers report.

c) Visas

To establish the fact that you have sufficient stake in the country, it is desirable to substantiate your claim by providing an evidence of fair market value of your assets instead of book value.

d) Perks

Senior manager or directors of the company are provided with furnished flat including various gadgets with a view to give him an indirect benefit, however, these items cannot be given as it is to the retiring person and as such a proper valuation report is obtained for debiting net value of these facilities from the amount payable to the retiring person.

e) Housing Loan

While procuring loans for housing, valuation report is necessary.

f) Family partition

Property of joint family when subject to partition valuers opinion is obtained to facilitate smoother division. His views are of importance if multi storeyed building is to be offered at a realistic value to members of family.

g) Divorce Settlement

In typical case of divorce if a property is good and sufficient it is invariably valued before divorce settlement is made.

6) SOCIAL RESPONSIBILITIES

a) It is time now, when a member of parliament may take services of expert valuers team to know actual investment incurred on Road Works. Tube wells/ Irrigation / Housing / Public Sector undertaking etc. etc. within a very short period and raise question in parliament budget session to the concerning minister and play important role in future development of the country.

KINDS OF VALUES AND DEFINITIONS

Market Value: It is defined as the sum the property will fetch if it is sold in the open market.

Guideline Value : It is the value of the land which is recorded in the Register of Registrar's Office and used for the purpose of determining the Stamp Duty at the time of Registration of the Documents.

Book Value: It shows the original investment of a Company on its assets, including properties and machinery less depreciation for the period passed.

Salvage Value: Value of Machinery realised on sales when its useful span of life is over but still it has not become useless.

Scrap Value: It is also called as Junk Value or Breakup Value of Demolition Value. It will represent the value of old materials in a building less cost of demolition.

Disposal Value: It is defined as the Value that can be realised if the assets were to be removed from the foundation and sold as separate stand alone items.

Insurance Value: It is the value of the Building for which the building is insured. Normally the Building is insured for the superstructure alone (not for the foundation).

Earning Value: It is the present value of a property which will start yielding an income in future.

Potential Value: It is an inherent value which may go on increasing due to passage of time or some other factor which will fetch more return.

Distress Value: If a property is sold at a lower price than that which can be obtained for it in an open Market, it is said to have "Distress Value". It may be due to:-

- * Financial crisis for the Vendor
- * Panic due to War, Riots Earthquake, Floods, etc.,
- * Land Locked Land
- * Sentimental reasons
- * Nuisance.

Speculative Value: When the property is purchased so as to sell the same at a profit after some duration, the price paid is known as Speculative Value.

Monopoly Value: In a developed Colony, the value of the plot goes on increasing when number of the available plots goes on decreasing. The fancy price demanded by the Vendor for the remaining plots is known as Monopoly Value.

Sentimental Value: The extra price which is demanded by a Vendor when he attaches certain sentiments to his property is known as Sentimental Value having no relation with the Market Value.

Fancy Value: It is also called as Desired Value. If the Purchaser wants to have a property somehow since the procurement is an absolute necessity for him due to various reasons, he is prepared

to pay more sum when compared with others. He attaches a special desire over the said property. The extra sum he is prepared to pay is called Fancy Value.

Accommodation Value: Small strips or lands cannot be developed independently due to their restricted lengths, depths etc and number of purchasers for this property is less. These strips could be sold only to the adjacent land owners who may be offering only a low value. This is called Accommodation Value.

Replacement Value: Replacement Value is the cost of reproduction of a similar Building with similar specifications at the current Market Price on the date of Valuation. It is also called as Reproduction Value or Reinstatement Value.

Depreciation Value: It is the reduction of Value of the Property due to age, deterioration, lack of maintenance, obsolescence, decay, wear and tear etc., Depreciation Value depends upon the age and its future life.

Present Value: It is replacement value less depreciation value.

The other Values are Liquidation Value, Intrinsic Value, Investment Value, Cost Value, Warranted Value, True Value, Written Down Value, Going Concern Value, Commercial Value, Rental Value, Exchange Value, Appraisal Value, Face Value, Utility Value, Use Value, Loss Value, Tax Value, Economic Value, Sale Value, Condemnation Value, Cash Value, Future Value, Capital Value, Mortgage loan Value, Forced Sale value, etc., etc.

FACTORS AFFECTING THE VALUE IN GENERAL

- * Supply and Demand
- * Cost of reproduction
- * Occupational value
- * Town Planning Act
- * Rent Control Act
- * Urban Land Ceiling Act
- * Any abnormal conditions like War, Riots, etc.

References:

1. B. Kanagasabapathy, - Practical Valuation Volume I, II, III.
2. Shrikanth Vasanth Joglekar, Mumbai Publications 1993-94, Valuation – Revaluation a New Vista Its Impact on Finance Everyone's Concern.
3. C.H. Gopinath Rao, Valuation Practice of Immovable Properties
4. B. Kanagasabapathy, Fair Rent Manual
5. B. N. Dutta, Estimating and costing.
6. Journals of Institution of valuers – New Delhi

Sinking Fund: The fund which is gradually accumulated by way of periodic or annual deposit for the replacement of the building or structure at the end of its useful life, is termed as sinking fund. The object of creating sinking fund is to accumulate sufficient money to meet the cost of construction or replacement of the building or structure after its utility period. The sinking fund is created by regular annual or periodic deposits in compound interest bearing investment, which will form the amount of replacement at the end of the utility period of the property. The sinking fund may be created by taking a sinking fund policy with an insurance company or by depositing in bank to collect highest compound interest. The calculation of sinking fund depends on the life of the building and scrap value of the building for the cost of old materials. The cost of land is not taken into account in calculating Sinking fund as land remains intact.

The sinking fund may also be required for payment of loan. If a property is owned or constructed by taking loan a sinking fund may be created by setting aside a sum of money annually to accumulate with compound interest in order to repay the debt at the end of the term of loan. The amount thus set aside is also known as Annuity payment. The amount which will be set aside may also be paid directly to lender by way of annual instalment. The amount of annual instalment of the Sinking fund may be found out by the formula.

$$I = \frac{Si}{(1+i)^n - 1},$$

where S = total amount of Sinking fund to be accumulated, n- number of years required to accumulate the Sinking fund, i = rate of interest in decimal (e.g., 5% = 0.05); and I = annual instalment required.

2.1.0 Example 1: A pumping set with a mortar has been installed in a building at a cost of Rs. 2,500.00. Assuming the life of the pump as 15 years, work out the amount of annual instalment of Sinking fund required to be deposited to accumulate the whole amount of 4% compound interest.

$$\begin{aligned} \text{The annual Sinking fund, } I &= \frac{Si}{(1+i)^n - 1} = \frac{2500 \times 0.04}{(1+0.04)^{15} - 1}, \\ &= 2500 \times 0.05 = \text{Rs. } 125. \end{aligned}$$

The owner is to deposit Rs. 125/- annually in 4% compound interest carrying investment for 15 years to accumulate Rs. 2,500/-.

2.1.1. Example 2: An old building has been purchased by a person at a cost of Rs.30,000/- excluding the cost of the land. Calculate the amount of annual Sinking fund at 4% interest assuming the future life of the building as 20 years and the scrap value of the building as 10% of the cost of purchase.

The total amount of Sinking Fund to be accumulated at the end of 20 years.

$$S = 30000 \times \frac{90}{100} = \text{Rs. } 27,000.00$$

$$\begin{aligned} \text{Annual Instalment of Sinking fund, } I &= \frac{Si}{(1+i)^n - 1} = \frac{27000 \times 0.04}{(1+0.04)^{20} - 1}, \\ &27000 \times 0.336 = \text{Rs. } 907.20 \end{aligned}$$

Annual Instalment for Sinking fund required for 20 years = **Rs. 907.20**

2.2. Depreciation: Depreciation is the gradual exhaustion of the usefulness of a property. This may be defined as the decrease or loss in the value of a property due to structural deterioration use,

life wear and tear, decay and obsolescence. The value of a building or structure will be gradually reduced due to its use, life, wear and tear, etc., and a certain percentage of the total cost may be allowed as depreciation to determine its present value. Usually a percentage on depreciation per annum is allowed. The general annual decrease in the value of a property is known as Annual depreciation. Usually, the percentage rate of depreciation is less at the beginning and gradually increase during later years.

The amount of depreciation being known, the present value of a property can be calculated after deducting the total amount of depreciation from the original cost.

2.2. a. The factors that cause depreciation are:

- * Wear and tear
- * Fall in market value
- * Accidents like fall of a tree
- * Obsolescence
- * Decay
- * Changes in demands
- * Changes in Arts and fashion
- * Calamity like flood, lightning etc.
- * Actions of elements of Nature like heat, cold, wind etc.,
- * Structural deterioration.

2.2.b. Method of calculating depreciation:

The various methods of calculating depreciation are as follows:

- (1) Straight line Method
- (2) Constant percentage method
- (3) Sinking fund method and
- (4) Quantity survey method.

In all these methods, it is necessary to decide the economic or effective life of the property.

2.3. Straight line method: In this method it is assumed that the property loses its value by the same amount every year. A fixed amount of the original cost is deducted every year, so that at the end of the utility period only the scrap value is left.

The present value minus salvage value is distributed uniformly for its service life. It is assumed the property loses its value by the same amount every year.

$$\text{Annual depreciation } D = \frac{\text{Original Cost} - \text{Scrap Value}}{\text{Life in year}} = \frac{C - S}{n}$$

Where, C – Original cost or Replacement Value

S – Scrap value or Salvage value

n - life of the property in years

D – annual depreciation.

Example:

Cost of New Building = Rs. 4,00,000

Salvage Value 10% at the end of life = Rs. 40, 000

Life assumed = 60 years

Annual Depreciation $\frac{4,00,000 - 40,000}{60}$ = Rs. 6,000

Depreciation value after 10 years = Rs. 60,000

Depreciation value after 60 years = Rs. 3,60,000

Depd. Value after 10 years = 400000 – 60000 = Rs. 3,40,000

Depd. Value after 60 years = 400000 – 360000
(which is the salvage value assumed) = Rs. 40,000

Linear Method: (or Constant Percentage Method or Written Down Value Method or Declining Balance Method):

In this method, the depreciation % age remains constant through the life of the building. But the capital sum or base goes on reducing every year by an amount equal to the depreciation of previous year. Thus the quantum of depreciation in this method will go on reducing every year and in this respect, it is contrast with the straight line method wherein the quantum of the

depreciation remains constant. The depreciated value is calculated by using the formula:

Example:
$$P = A \left(1 - \frac{r}{100} \right)^n$$

Where P = Depreciated value of the Building
A = Replacement value of the Building
r = rate of depreciation per year
n = Age of the Building in Years

Example to calculate the depreciated value:

Replacement Value of the Building	=	Rs. 20,00,000	
Age of the Building (n)	=	15 years	
Depreciation assumed	=	2 %	
Depreciated value	=	$20,00,000 \left(1 - \frac{2}{100} \right)^{15}$	
	=	$20,00,000 (0.98)^{15}$	
	=	$20,00,000 (0.73857)$	
	=	Rs. 14,77,140	
Depreciation factor = $1 - 0.73857$	=	0.26143 (vide the table also)	
Depreciation value (20,00,000 – 14,77,140)			=0.2614
	=	Rs. 5,22,860	
Depreciation Percentage	=	26.143%	

STANDARD RATE OF DEPRECIATION (AS PER TN PWD)

- | | |
|--|----------------|
| 1. Buildings built in lime mortar and in which teak wood has been used throughout | 1.01% per year |
| 2. Buildings built partly in brick in lime mortar, and partly in mud mortar and in which teak wood has been used | 1.5 % per year |
| 3. Buildings built in brick in mud and in which country wood has been used | 2.0 % per year |
| 4. Buildings like police lines which are inferior to class 3 above with brick in mud unplastered walls, mud floors and in which country wood has been used | 4.0 % per year |

The depreciation factor for different percentages for various years are given in the following table as a ready reckoner.

**TABLE: DEPRECIATION BY ADOPTING CONSTANT % AGE
METHOD OR LINEAR METHOD**

The value of Depreciation: $\left[1 - \left(1 - \frac{r}{100}\right)^n\right]$ is given in the following tables.

Years (age)	1%	1½%	2%	4%
1	0.01000	0.01500	0.20000	0.04000
2	0.01990	0.02978	0.03960	0.07840
3	0.02970	0.04433	0.05880	0.11526
4	0.03940	0.05866	0.07763	0.15065
5	0.04901	0.07278	0.09608	0.18463
6	0.05852	0.08669	0.11416	0.21724
7	0.06793	0.10039	0.13187	0.24855
8	0.07726	0.11389	0.14924	0.27861
9	0.08648	0.12718	0.16625	0.30747
10	0.09562	0.14027	0.18293	0.33517
11	0.10466	0.15311	0.19927	0.36177
12	0.11362	0.16587	0.21528	0.38729
13	0.12248	0.17838	0.23098	0.41180
14	0.13125	0.19070	0.24636	0.43533
15	0.13994	0.20284	0.26143	0.45791
16	0.14854	0.21480	0.27620	0.47960
17	0.15706	0.22658	0.29068	0.50041
18	0.16549	0.23818	0.30486	0.52040
19	0.17383	0.24961	0.31877	0.53958
20	0.18209	0.26087	0.33239	0.55800
21	0.19027	0.27195	0.34574	0.57568
22	0.19837	0.28287	0.35883	0.59265
23	0.20639	0.29363	0.37165	0.60894
24	0.21432	0.30422	0.38422	0.62459
25	0.22218	0.31466	0.39654	0.63960
26	0.22996	0.32494	0.40860	0.65402

Years (age)	1%	1½%	2%	4%
27	0.23766	0.33507	0.42043	0.66786
28	0.24528	0.34504	0.43202	0.68114
29	0.25283	0.35486	0.44338	0.69390
30	0.26030	0.36454	0.45452	0.70614
31	0.26770	0.37407	0.46543	0.71790
32	0.27502	0.38346	0.47612	0.72918
33	0.28227	0.39271	0.48659	0.74001
34	0.28945	0.40182	0.49686	0.75041
35	0.29655	0.41079	0.50693	0.76040
36	0.30359	0.41963	0.51679	0.76998
37	0.31055	0.42834	0.52645	0.77918
38	0.31745	0.43691	0.53592	0.78801
39	0.32427	0.44536	0.54520	0.79649
40	0.33103	0.45368	0.55430	0.80463
41	0.33772	0.46187	0.56321	0.81244
42	0.34434	0.46994	0.57195	0.81995
43	0.35090	0.47789	0.58051	0.82715
44	0.35739	0.48573	0.58890	0.83407
45	0.36381	0.49344	0.59712	0.84070
46	0.37012	0.50104	0.60518	0.84708
47	0.37647	0.50852	0.61308	0.85319
48	0.38271	0.51590	0.62081	0.85906
49	0.38888	0.52316	0.62840	0.86470
50	0.39500	0.53031	0.63583	0.87011
51	0.40104	0.53736	0.64311	0.87531
52	0.40703	0.54429	0.65025	0.88030
53	0.41296	0.55113	0.65725	0.88509
54	0.41883	0.55786	0.66410	0.88968
55	0.42465	0.56450	0.67082	0.89409
56	0.43040	0.57103	0.67740	0.89833

Years (age)	1%	1½%	2%	4%
57	0.43609	0.57746	0.68386	0.90240
58	0.44173	0.58380	0.69018	0.90630
59	0.44732	0.59004	0.69637	0.91005
60	0.45284	0.59619	0.70245	0.91365
61	0.45831	0.60225	0.70840	0.91710
62	0.46373	0.61082	0.71423	0.92042
63	0.46909	0.61409	0.71995	0.92360
64	0.47440	0.61988	0.72555	0.92666
65	0.47966	0.62558	0.73104	0.92959
66	0.48486	0.63120	0.73641	0.93241
67	0.49001	0.63673	0.74169	0.93511
68	0.49511	0.64218	0.74685	0.93771
69	0.50016	0.64755	0.75192	0.94020
70	0.50516	0.65283	0.75688	0.94259
71	0.51011	0.65804	0.76174	0.94489
72	0.51501	0.66317	0.76651	0.94709
73	0.51986	0.66822	0.77117	0.94921
74	0.52466	0.67320	0.77575	0.95124
75	0.52941	0.67810	0.78024	0.95319
76	0.53412	0.68293	0.78463	0.95506
77	0.53878	0.68769	0.78894	0.95686
78	0.54339	0.69237	0.79316	0.95859
79	0.54796	0.69699	0.79730	0.96024
80	0.55248	0.70153	0.80135	0.96183
81	0.55695	0.70601	0.80532	0.96336
82	0.56138	0.71042	0.80922	0.96482
83	0.56577	0.71476	0.81303	0.96623
84	0.57011	0.71904	0.81678	0.96758
85	0.57441	0.72326	0.82044	0.96888
86	0.57867	0.72741	0.82403	0.97012

Years (age)	1%	1½%	2%	4%
87	0.58288	0.73150	0.82755	0.97132
88	0.58705	0.73552	0.83100	0.97247
89	0.59118	0.73949	0.83438	0.97357
90	0.59527	0.74340	0.83769	0.97462
91	0.59932	0.74725	0.84094	0.97564
92	0.60332	0.75104	0.84412	0.97661
93	0.60729	0.75477	0.84723	0.97755
94	0.61122	0.75845	0.85029	0.97845
95	0.61510	0.76207	0.85328	0.97931
96	0.61895	0.76564	0.85622	0.98014
97	0.62276	0.76916	0.85909	0.98093
98	0.62654	0.77262	0.86191	0.98169
99	0.63027	0.77603	0.86467	0.98243
100	0.63396	0.77939	0.86738	0.98313

(3) Sinking fund method: In this method the depreciation of property is assumed to be equal to the annual sinking fund plus the interest on the fund for that year, which is supposed to be invested on interest bearing investment. If A is the annual sinking fund and b, c, d, etc., represent interest on the Sinking fund for subsequent years, and C = total original cost, then –

At the end of	Depreciation for the year	Total depreciation	Book value
1st year	A	A	C – A
2nd year	A + b	2A + b	C – (2A + b)
3rd year	A + c	3A + b + c	C – (3A + b + c)
4th year	A + d	4A + b + c + d	C – (4A + b + c + d)
So on			

(4) Quantity survey method: In this method the property is studied in detail and loss in value due to life, wear and tear, decay, obsolescence, etc., worked out. Each and every step is based on some

logical ground without any fixed percentage of the cost of the property. Only experienced valuer can work out the amount of depreciation and present value of a property by this method.

Obsolescence: The value of property or structures become less by its becoming out of date in style, in structure in design, etc., and this is termed as Obsolescence. An old dated building with massive walls, arrangements of rooms not suited in present days and for similar reasons, becomes obsolete even if it is maintained in a very good condition, and its values becomes less due to obsolescence. The obsolescence may be due to the reasons such as progress in arts, changes in fashions, changes in planning ideas, new inventions, improvements in design technique, etc., A machine of old design may become obsolete, though it may be in good running condition and its value will be less. Thus, though the property is physically sound, it may become functionally inadequate and its economical return becomes less.

Annuity: Annuity is the annual periodic payments for repayments of the capital amount invested by a party. These annual payments are either paid at the end of the year or at the beginning of the year, usually for a specified number of years.

If the amount of annuity is paid for a definite number of periods or years, it is known as Annuity certain. In such cases the amount of annuity will be higher, the lesser the number of the years the higher will be the amount and vice versa to clear up to the whole amount of capital.

If the amount of annuity is paid at the beginning of each period of year and payments continued for definite number of periods, it is known as Annuity due.

If the payment of annuity begins at some future date after a number of years, this is known as Deffered Annuity.

If the payments of annuity continue for indefinite period, it is known as Perpetual Annuity.

Though annuity means annual payment, the amount of annuity may be paid by twelve monthly instalments or quarterly or half-yearly instalments.

TECHNICAL DATA

PLINTH AREA RATES FOR BUILDINGS

Prescribed By Chief Engineer, PWD, Tamilnadu

1. RATES FOR MOFUSSIL AREA

(Amount in rupees per square metre of plinth area.)

Year	Residential				Non-Residential				Hospital			
	Framed		Load bearing		Framed		Load bearing		Framed		Load bearing	
	GF	FF	GF	FF	GF	FF	GF	FF	GF	FF	GF	FF
1977-78	-	-	380	360	-	-	-	-	-	-	450	430
1978-79	-	-	430	400	-	-	400	370	-	-	500	470
1979-80	-	-	575	500	700	630	525	450	780	700	600	525
1980-81	-	-	690	600	805	725	630	540	935	845	690	600
1981-82	975	885	775	675	925	835	725	625	1075	980	795	690
1982-83	1180	1070	940	820	1090	985	875	755	1280	1165	960	830
1983-84	1360	1230	1035	900	1200	1085	960	830	1410	1260	1055	915
1984-85	1430	1290	1085	945	1260	1140	1010	870	1480	1345	1110	960
1985-86	1630	1470	1225	1070	1435	1300	1130	975	1700	1545	1265	1095
1986-87	1660	1500	1285	1125	1480	1340	1185	1025	1770	1605	1340	1160
1987-88	1695	1530	1310	1150	1510	1365	1210	1045	1830	1660	1380	1195
1988-89	1765	1590	1390	1220	1570	1420	1270	1095	1905	1725	1465	1265
1989-90	2010	1815	1585	1390	1820	1650	1475	1270	2210	2000	1685	1455
1990-91	2210	1995	1745	1530	2000	1815	1625	1395	2430	2200	1855	1600
1991-92	2475	2255	1955	1715	2240	2035	1820	1565	2795	2530	2135	1840
1992-93	2720	2460	2150	1890	2470	2240	2000	1720	3080	2780	2350	2030
1993-94	2925	2645	2365	2080	2690	2440	2220	1910	3355	3030	2560	2215
1994-95	3220	2910	2600	2290	2690	2685	2440	2100	3960	3335	2815	2435

Year	Residential				Non-Residential				Hospital			
	Framed		Load bearing		Framed		Load bearing		Framed		Load bearing	
	GF	FF	GF	FF	GF	FF	GF	FF	GF	FF	GF	FF
1995-96	370 5	3345	3095	2725	3405	3090	2805	2415	4060	3670	3095	2680
1996-97	407 5	3680	3405	3000	3745	3420	3085	2655	4465	4035	3405	2950
1997-98	449 0	4050	3750	3300	4120	3740	3400	2920	4910	4440	3750	3250
1998-99	485 0	4370	4050	3560	4450	4040	3670	3150	5300	4800	4050	3510
99-2000												

2. RATES FOR CHENNAI CITY- Amount in rupees per square metre of plinth area.

Year	Residential				Non-Residential				Hospital			
	Framed		Load bearing		Framed		Load bearing		Framed		Load bearing	
	GF	FF	GF	FF	GF	FF	GF	FF	GF	FF	GF	FF
1977-78	-	-	420	400	-	-	-	-	-	-	500	480
1978-79	-	-	480	450	-	-	450	420	-	-	560	530
1979-80	-	-	650	575	770	700	600	525	850	780	675	600
1980-81	-	-	715	630	850	770	690	600	1020	935	745	660
1981-82	1010	925	820	725	980	890	790	690	1175	1080	850	750
1982-83	1212	1110	945	835	1135	1030	900	785	1315	1210	980	865
1983-84	1390	1275	1135	1000	1360	1240	1080	940	1580	1450	1175	1040
1984-85	1460	1340	1190	1050	1430	1300	1135	985	1660	1525	1235	1095
1985-86	1695	1555	1345	1185	1645	1495	1270	1105	1925	1770	1410	1250
1986-87	1730	1585	1415	1245	1695	1540	1335	1160	2000	1840	1495	1325
1987-88	1765	1615	1465	1290	1730	1570	1380	1200	2070	1905	1545	1370
1988-89	1825	1670	1525	1340	1775	1610	1435	1250	2110	1945	1605	1425
1989-90	2080	1905	1740	1530	2060	1870	1650	1440	2450	2255	1830	1625
1990-91	2495	2285	2000	1760	2470	2245	1990	1655	2940	2705	2105	1870
1991-92	2870	2630	2300	2025	2840	2580	2185	1905	3380	3110	2420	2150
1992-93	3160	2900	2530	2230	3130	2840	2410	2100	3720	3420	2660	2370
1993-94	3285	3015	2655	2340	3320	2910	2555	2225	4000	3675	2795	2490
1994-95	3615	3315	2920	2575	3650	3310	2810	2450	4400	4045	3075	2740

1995-96	4155	3810	3385	2985	4200	3805	3320	2820	5060	4650	3535	3150
1996-97	4570	4190	3725	3285	4620	4185	3555	3100	5565	5115	3890	3465
1997-98	5030	4610	4170	3680	5080	4600	4040	3520	6120	5630	4360	3880
1998-99	5640	5170	4590	4050	5590	5060	4450	3870	6730	6200	4800	4270
99-2000												

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SPECIFICATIONS

Prescribed by the P.W.D. for their Plinth Area rates

Residential	Non – Residential	Hospital
<p>The rates are inclusive of provision for internal water supply at 7.5%, sanitary arrangements at 7.5% and internal electrifications at 10%.</p> <p>EXTRA:</p> <p>External Water supply– 7.5%</p> <p>External Sanitary – 7.5%</p> <p>External Electrification – 7.5%</p> <p>OR ACTUALS</p>	<p>The rates are inclusive of provision for internal water supply at 7.5%, sanitary arrangements at 7.5% and internal electrifications at 10%. The rates are inclusive of mosaic in situ works and dadoing with glazed tiles in toilets.</p> <p>EXTRA:</p> <p>External Water supply– 7.5%</p> <p>External Sanitary – 7.5%</p> <p>External Electrification– 7.5%</p> <p>OR ACTUALS</p>	<p>The above rates are inclusive of provision for internal water supply at 7.5%, sanitary arrangements at 7.5% and internal electrifications at 15%. The rates are also inclusive of provision for mosaic flooring, Mosaic dadoing in wards and dadoing walls with glazed tiles in operation theatres and in toilets.</p> <p>EXTRA:</p> <p>External Water supply – 7.5%</p> <p>External Sanitary – 7.5%</p> <p>External Electrification – 7.5%</p> <p>OR ACTUALS</p>

References:

1. B. Kanagasabapathy, - Practical Valuation Volume I, II, III.
2. C.H. Gopinath Rao, Valuation Practice of Immovable Properties
3. B. Kanagasabapathy, Fair Rent Manual
4. B. N. Dutta, Estimating and costing.
5. Journals of Institution of valuers – New Delhi
6. TNPWD - Plinth Area Rates

VALUATION OF LAND:

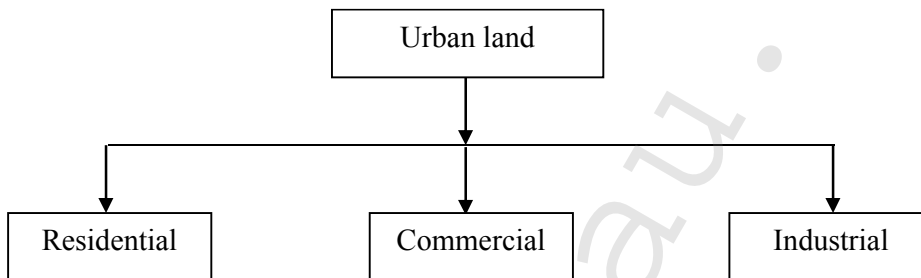
In the Land Valuation generally Lands are broadly classified into

- (1) open lands (2) Land with Structures.**

Further the open land classified as

- (1) Urban Land, (2) Agricultural (or) form land**

The urban land again classified into three categories:



The market value of the land should be arrived by multiplication of **Total Extent of Land or Plot and the unit Rate of the land.**

Land Value = Total Extent x Unit Rate of Land

CALCULATION OF EXTENT:

The extent is calculated based upon the Documents (or) actuals. The following documents is to be utilized to found the extent

- (1) Peruse of title Deeds & Settlements / will deeds
- (2) Encumbrance Certificates
- (3) Site plan which is given by the local administration Authority
- (4) Survey Book
- (5) Previously approved plans etc....
- (6) Legal opinions

Even though over the above documents a valuer may be the case, physical measurements to be executed in the site while doing valuation.

UNIT RATE:

There are two types of the unit rates system's applied in the assessing of Land Valuation

(1) Guideline Rate**(2) Prevailing market rate****Guideline Rate:**

Guideline Rate is the unit rate fixed by the local Registration Dept authorities for the purpose of deciding the stamp Duty for any sale transaction between the Buyer and Seller. This rate is fixed based on the recent transactions and sale instances.

Prevailing Market Rate:

This is the rate to be adopted while assessing the present market value. This rate is to be arrived from comparable/ recent sale instances, transacted in the surrounding or near by areas.

UNIT RATE APPLICATION METHODS:

The unit rate application in the valuation of land will not be same for all types of plots. It varies with the shape, size, Nature etc.,

DIFFERENT SHAPES OF LANDS OR PLOTS:**1) Regular shaped plots:**

Usually Rectangular or square in shape, and the rates can be adopted 100% of the unit rate to the entire area of plot or land.

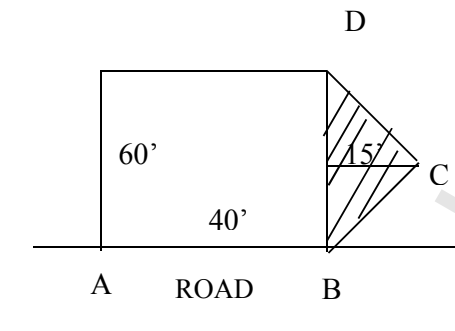
2) Land locked land:

This type of land, do not have any access or approach road is called Land located Land. This property will not be used any outsiders, any adjoining owners only purchased. Hence 70 to 75% of unit rate will be adopted.

3) Recess Land:

Recess Land is a part or portion of the land which has zero frontage on the road. It lies between the boundary of the plot and

makes obtuse angle with the line of the Road. The portion BCD is called the Recess land.



4) Strips of Land:

There are lands where the depth is much more than the width. Such types of lands are valued by **Belting Method**. While assessing the value of Land, the depth plays vital role. Front land has more value and value goes on decreasing as the depth increases. In this method the front land will be adopted 100% unit rate, The central land will be adopted 65% and the Rear land or end portion will be adopted 50%. This is the principle of Belting Method of Valuation of Land.

VALUATION OF PROPERTIES

Introduction

The following the methods of valuation being adopted in General practice by a practicing valuer are:

- * Land and Building Method
- * Rent Capitalization Method
- * Development Method
- * Profit Method
- * Direct Comparison Method

Land Building Method:

By this method, the value of the land and the value of Building are assessed separately and added to get the present value of the

property. Depreciation is calculated either by straight line method or applying Linear method.

Rental or Capitilisation Method:

Rental method of valuation consists in capitilising the Net Annual Rental Income (NARI) at an appropriate rate of interest or rate of capitilisation.

Net annual rent income equals to Gross Annual Rental Income (GARI) minus outgoings like Property Tax, repairs, maintenance, Service Charges, Insurance Premium, Rent Collection and Management Charges etc.

Development Method (or Residual Method):

This method is used to evaluate such property where there is a development potential, so that the value of the property after development will be increased more than the expenditure incurred. For example, a large portion of land can be divided into small plots and developed fully so as to provide plots of land for a residential Colony or a large complex of multi-storied buildings, housing ownership flats in a Co-operative Housing Society.

Profit Method:

This method is applicable to Hotels, Cinema Theatres, Marriage Halls and Public Places. This method as the name suggests deals in working the profit from a property and subsequently capitalizing the same at appropriate rate of return depending upon a number of factors.

- i) The net profit to be adopted should be an average of last three years of profit.
- ii) Part of the profits is due to goodwill which should be properly reflected in the rate of return.

GENERAL PROCEDURE TO DO THE VALUATION OF BUILDING

1. Measure the Plinth Area. Observe the specification and other factors which affect the value.

2. Adopt suitable Replacement Rate of construction (for the Building portion alone) depending upon the existing conditions and specifications.
3. Multiply the plinth area by the unit rate to get the replacement value of the building.
4. Ascertain the age of the Building.
5. Estimate suitable total life of the Building.
6. Assume suitable % age for salvage value. Calculate Depreciation by Straight line method. $\text{Depn \%} = (\text{Age} / \text{Total life}) \times (100 - \% \text{ Salvage value})$. If the age is not known or if the building has crossed its service life, estimate future life and calculate the depreciation by using the formula.

$$D = \frac{\text{Total life} - \text{Future life}}{\text{Total life}} \times (100 - \% \text{ age salvage value})$$

7. Depreciation % age multiplied by the Replacement value will be the Depreciation Value.
8. Present Value = Replacement Value – Depn. Value
This is the value of Building.
9. Add suitable depreciated value for other works like Amenities, extra works, miscellaneous works etc.
10. Add suitable value separately for services depending upon the actual's specifications.

(I) LAND AND BUILDING METHOD:

Definition

In this method of valuation building portions being valued separately after allowing depreciation and the land is valued separately and their added to get the present value of the property:

Present Value of the Property = Value of the building + Value of the land +
Value of the amenities & services.

PROCEDURE OF VALUATION:

- * Ascertain from the applicant the exact purpose of valuation.
- * From the document available, note down the measurement of the plot and other details.
- * Verify the measurements and the extent at site.

- * Assess suitable unit rate based upon the prevailing market rate or from the recent comparable sale instances of a similar vacant plot with almost similar characteristics.
- * Arrive the value of Building by adopting the procedure.
- * Addition of value of Land and Building will be the present value of the property.
- * If the aim of valuation is to assess the market Value
 1. apply the reduction factor to the value of land.
 2. Add suitable percentage towards any potential value
 3. Deduct any percentage towards negative factors.
- * Analyse any other points depending upon the individual merits of the case.
- * Give valuation report in the appropriate format.

CASE STUDY

Example : 1

An R.C.C Roofed Residential Building of G.F 1600 Sqft & F.F 1000 Sqft is existing in a plot of 1.5 Grounds. Age of G.F is 10 years and that of F.F is 5 years. Find the market value of the property.

Valuation is done to assess the market value by adopting land and building method.

I VALUATION OF LAND:

Extent of the plot	:	3600 Sqft
Prevailing Market Value	:	Rs. 50.00 / Sqft
Adopted Unit rate in this valuation 85% of Rs. 50/-	:	Rs. 42.50 / Sqft
Assessed Value of the plot	:	Rs. 1,53,000/-

II. BUILDING :

(A) GROUND FLOOR

Plinth area of Ground floor	=	1600 Sqft
Replacement Rate of construction	=	Rs. 500.00 / Sqft
Replacement value	=	Rs. 8,00,000/-

Age of the Building	=	10 years
Total lift assumed	=	80 years
Depreciation percentage assuming the salvage value as 10%	=	$\frac{10}{80} \times 90 = 11\%$
Depreciation value	=	Rs. 88,000.00
Depreciated value of Ground Floor	=	Rs. 7,12,000.00

(B) FIRST FLOOR

Plinth area of Ground floor	=	1000 Sqft
Replacement Rate of construction	=	Rs. 400.00 / Sqft
Replacement value	=	Rs. 4,00,000/-
Depreciation % age (GF Deprn)	=	11%
Depreciation value $\frac{11}{100} \times 4,00,000$	=	Rs. 44,000.00
Depreciated value of First Floor	=	Rs. 3,56,000.00

(C) TOTAL VALUE OF GF & FF (7,12,000 + 3,56,000) = 10,68,000.00

III Others (Depreciated Value)

Amenities existing in the building	=	Rs. 30,000.00
Water Supply arrangements	=	Rs. 20,000.00
Septic tank & Dispersion Trench	=	Rs. 6,000.00
Compound wall 224 RFT @ Rs. 100/RFT	=	Rs. 22,400.00
E.B. Deposit & Miscellaneous	=	Rs. 5,000.00
Total	=	Rs. 83,400.00

IV ABSTRACT VALUATION:

I	Land	:	Rs. 1,53,000.00
II	Building	:	Rs. 10,68,000.00
III	Others	:	Rs. 83,400.00
IV	Total Value	:	Rs. 13,04,400.00

Example : 2

A R.C.C Roofed Residential Building 1800 SFT it is constructed in year 1965 and the First Floor Constructed in year 1975. The total land area 4000 SFT (40 x100). The building built-up with load bearing structure with aesthetic look and having all services like bore, motor, OHT, Septic tank etc.

VALUATION DETAILS**Part – I - Land**

Size of the plot	:	40 x 100
Total Extent of the plot	:	4000 Sqft
Prevailing Market Value	:	Rs. 120.00 Sqft
Adopted rate of valuation	:	Rs. 100.00 Sqft
Assessed Value of the plot	:	Rs. 4,00,000/-

Part – II Building

SI. No.	Floor	Reported year of construction	Roof	Plinth area Sq.ft
1.	Ground Floor	1965	R.C.C	1800 SFT
2.	First Floor	1975	R.C.C	1000 SFT

B. GENERAL INFORMATION

1. Type of construction : Load Bearing Structure
2. Quality of construction : I class
3. Appearance of the building : Excellent and aesthetic
4. No. of floors : GF & FF
5. Maintenance of the building : Excellent
6. Water supply arrangements : Deep bore, motor and OHT
7. Drainage arrangements : Septic Tank

C. VALUATION OF GROUND FLOOR CONSTRUCTION

1. Specifications:

Foundation	: Stepped footing
Superstructure	: Brick Work in C.M 1:5
Roof	: R.C.C. 1:2:4
Joinery	: Teak wood
Floor finish	: Colour Mosaic

2. Total Plinth area : **1800 SFT**
3. Year of construction : 1965
4. Age of building : 39 yrs
5. Total life of the building estimated : 70 yrs
6. Depreciation percentage (assumed salvage value 10%) : $70 - 31/70 (100 - 10) = 50.14\%$
7. Replacement rate of construction with the existing conditions & specifications : Rs 500.00/SFT
8. Replacement value : **Rs. 9,00,000.00**
9. Depreciation value at the rate of 50.14% : **Rs. 4,51,260.00**
10. Estimated present value of **ground floor** construction : **Rs. 4,48,740.00**

D. VALUATION OF FIRST FLOOR CONSTRUCTION

1. Specifications:
 - Superstructure : Brick Work in C.M 1:5
 - Roof : R.C.C. 1:2:4
 - Joinery : Teak wood with mica
 - Floor finish : Colour Mosaic
2. Total Plinth area : **1000 SFT**
3. Year of construction : 1975
4. Age of building : 39 yrs
5. Total life of the building : 70 yrs
estimated
6. Depreciation percentage : 50.14 %
7. Replacement rate of construction : Rs. 400.00/SFT
with the existing conditions &
specifications
8. Replacement value : **Rs. 4,00,000.00**
9. Depreciation value at the rate of : **Rs. 2,00,560.00**
50.14%
10. Estimated present value of **First** : **Rs. 1,99,440.00**
floor construction

E. REPLACEMENT, DEPRECIATION AND NET VALUE

SL. No.	Description	Replacement value	Depreciation	Net value
1.	Ground Floor	9,00,000.00	4,51,260.00	4,48,740.00
2.	First Floor	4,00,000.00	2,00,560.00	1,99,440.00
	Total	13,00,000.00	6,51,820.00	6,48,180.00

PART III – EXTRA ITEMS

1. Portico 200 Sqft @ 150 Sqft	:	Rs.	30,000.00
2. Ornamental front door	:	Rs.	5,000.00
3. Sitout/ Verandah with steel grills	:	Rs.	5,000.00
4. Over head water tank	:	Rs.	5,000.00
5. Extra Steel /Collapsible gates	:	Rs.	3,000.00
6. Side dadoos 200 Sft @ 30/Sqft	:	Rs.	6,000.00
	:	Rs.	54,000.00
Less depreciation 50.14%	:	Rs.	27,076.00
Net Value	:	Rs.	26,924.00

Part IV – Amenities

1. Wardrobes 250 Sqft x 125 / Sqft	:	Rs.	31,250.00
2. Glazed tiles 375 Sqft x 25/Sqft	:	Rs.	9,375.00
3. Extra sinks and bath tub	:	Rs.	6,000.00
4. Marble / ceramic tiles flooring	:	Rs.	3,600.00
5. Interior decoration	:	Rs.	10,000.00
6. Architectural elevation works	:	Rs.	15,000.00
7. Panelling works 225 Sqft x 100	:	Rs.	22,500.00
8. Aluminium works 100 Sqft x 100	:	Rs.	10,000.00
9. Aluminium hand rails 32 RFT x 80	:	Rs.	2,560.00
Total	:	Rs.	1,10,285.00
			0
Less Depreciation 50.14%	:	Rs.	55,297.00
Net Value	:	Rs.	54,988.00

Part V – Miscellaneous

1. Separate toilet room 50 Sqft	:	Rs.	5,000.00
2. Separate lumber room	:	Rs.	-
3. Separate water tank / sump	:	Rs.	3,000.00
4. Trees/Gardening	:	Rs.	8,000.00
Total	:	Rs.	16,000.00

Part VI - SERVICES

1. Water supply arrangements	:	Rs.	20,000.00
2. Drainage arrangements	:	Rs.	6,000.00
3. Compound wall 150 Rft @ 125 Rft	:	Rs.	18,750.00
4. E.B. deposits and fittings etc	:	Rs.	10,175.00
5. Pavement	:	Rs.	-
6. Steel gates	:	Rs.	-
Total	:	Rs.	54,925.00

Part VII - ABSTRACT

1. Plot	:	Rs.	4,00,000.00
2. Building	:	Rs.	6,48,180.00
3. Extra items	:	Rs.	26,924.00
4. Amenities	:	Rs.	54,988.00
5. Miscellaneous	:	Rs.	16,000.00
6. Services	:	Rs.	54,925.00
Total	:	Rs.	12,01,017.00
Say	:	Rs.	12,00,000.00

II. RENT CAPITALISATION METHOD:

In this method, the buildings attracted by Rent Control Act. The income should be calculated as that actually received. If the rent has not been revised due to the owner not asking for that, the rent calculated should be as per the market value, as on the date on which the valuation is made. Since the rent itself is fixed as a percentage on the value of the property.

RATE OF RETURN & CAPITALISATION

Rate of Return : The income what we receive for our capital is called
i.e., Rate of Return.

Amount invested	:	2,00,000.00
Rate of Return	:	10 %
Yearly income	:	$2,00,000 \times \frac{10}{100} = \text{Rs. } 20,000/-$
Monthly income	:	$\frac{20,000}{12} = \text{Rs. } 1666.67$

CAPITALISATION

Capitalisation	:	$\frac{\text{Yearly income} \times 100}{\text{Rate of Return}}$
	:	$20,000 \times \frac{100}{10}$
Capital amount	:	Rs. 2,00,000.00

CALCULATION OF CAPITALIZED VALUE OF PROPERTY

Capitalized value of the property = Net Maintainable Rent x 12.5

CASE STUDY: RENT CAPITALISATION METHOD

A shop fetches a monthly rent of Rs. 2000 advance amount received Occupier Rs. 30,000, Property tax Rs. 1200. What is the value of the shop? It is a free hold property.

I) GARI (GROSS ANNUAL RENTAL INCOME)

Monthly rent		= 2000.00
Annual rent 2000 x 12		= 24000.00
Add actual advance paid	= 30,000.00	
Normal Three month Rent	= 6,000.00	
Excess	= 24,000	
Interest @ 12%	= 2,880.00	= 2880.00
GARI	= 24,000 + 2,880	= 26,880.00

II) OUTGOINGS

Property Tax	-	Rs. 1200.00
15% GARI	(0.15 x 24880)	Rs. 4032.00
Total Outgoing		Rs. 5232.00

III) NET ANNUAL RENTAL INCOME: NARI = GARI - OUTGOINGS

$$= 26,880 - 5,232$$

$$= 21,648.00$$

VALUE OF THE PROPERTY: = NET MAINTAINABLE RENT X 12.5

$$= 21648 \times 125$$

$$= 2,70,600/-$$

CASE STUDY - II

Mr. Rajan has let out his godown (free hold) in mount Road, Chennai for a monthly rent of 8000/-. He has received a refundable advance Rs. 1,50,000/- and premium amount of 2,00,000 for 20 years. The tenant is maintaining the shop by paying 8000/- as corporation tax per annum. Calculate the value by rent capitalization method.

i) GARI

Monthly rent = Rs. 8000.00

Annual rent 8000×12 = Rs. 96,000.00

Add

a) Tax born by the tenant Rs. 8000.00

b) Repairs $1/9 \times 96,000$ Rs. 10,666.66

c) Advance Rs. 1,50,000.00

Normal advance 3 month rent 8000×3 Rs. 24,000.00

x 3

Excess advance Rs. 1,26,000.00

Add interest 15% Rs. 18,900.00

d) Premium / No of years Rs. 10,000.00

$20000 / 20$

Total Rs. 1,43,566.00

ii) Outgoings

Tax NIL

15% of GARI = 0.15×143566 21534.90

Total 21534.90

iii) NARI = GARI – OUTGOINGS

$143566 - 21534.90$

1,22,031.10

iv) Capitalised Value

= $NMR \times 12.5 = 15,25,388.75$

Say 15.25 lakhs

3) DEVELOPMENT METHOD:

In this method, the value of the property is latent and will be released on development. This can be worked out by ascertaining the zoned use and extent of development legally permissible under the rules of local authorities and determining the annual gross income that can be fetched after development. From this the net income can be arrived by deducting the outgoings. The capitalized value can be arrived at. To develop the property certain period will be required right from preparation of plans, getting them approved by the local bodies. The capital expenditure required for development during the phase period should also be estimated. A percentage of amount has to be deducted on account of the above. The result so obtained by the above procedure should be compared with the actual sale instances of similar under developed properties.

Under developed property, if occupied by tenant under Rent Control Act, will have constraint in utilizing the potential of the development of vacant land depending upon the legal rights of shifting the tenant. It has to be examined whether surplus land is serveable from the enjoyment of the tenant.

Development method should invariably be adopted for valuing land which is ripe for development. Some of the agricultural land close to the periphery of the city will be allowed to be converted as urban land. Large pockets of land have to be laid out in small housing plots as per the rules of the development authorities taking into account the expense that may be incurred for provision of roads, sewers, drains, water mains, electric mains and leveling up of area should be worked out and priced. The net plot area available should be worked out and priced. The net plot area available should be priced on the basis of instance sale of developed land in that area. In cities where urban renewal is permitted and where old buildings are allowed to demolish and convert into shopping complex or residential apartments, here also development method should be adopted taking into account the

floor area ratio, the plot coverage and other parameters prescribed by the local authorities.

4) VALUATION BY PROFIT METHOD:

Profit method is applicable to Hotels, Cinemas, Marriage Halls and Public Places. This method as the name suggests deals in working the profit from a property and subsequently capitalizing the same at appropriate rate of return depending upon a number of Factors.

Estimating the Fair Market Value by using Profit Method is discussed here.

METHOD OF VALUATION OF A CINEMA THEATRE

The fair market value of a cinema theatre is the best possible price one could give in the case of any sale.

The method of valuation which a valuer can adopt depends upon the circumstances of the individual case. Many valuers including this author feel that the profit Method is the most appropriate method of valuation if the owner of the theatre conducts himself the business.

The procedure of valuation of a cinema theatre by using profit method is analyzed here in brief.

ASSESSMENT OF VALUE

Profitably is determined and the value is arrived by capitalizing the net profit at an appropriate rate of return after apportioning the profit due to

- 1) Tangible assets and
- 2) Intangible assets

$$\text{PROFIT} = \text{GROSS INCOME} - \text{EXPENSE}$$

GROSS INCOME

Gross Income = Income from exhibiting the pictures excluding entertainment Tax + Income from other sources.

INCOME FROM PICTURE

Yearly Gross Income from exhibiting the pictures = [{Full House occupancy – Normal Vacancy} x No. of Shows in a month x 12] – Entertainment Tax paid to the Govt.

More the occupancy percentage, more the income from exhibiting the pictures. The significant factors affecting the better occupancy rates are:

- * Competition
- * Locational Advantage
- * Interior decoration
- * Good films
- * Capacity of the House
- * Environments
- * Aesthetics of Foyer
- * Excellent Sound Systems
- * Video Piracy
- * Cable T.V
- * No. of Theatres existing in that area
- * Development of the adjacent locality
- * Modern Cinema Building with amenities
- * Elevational Treatments, Facades
- * Elegant and comfortable furniture
- * Efficient projection equipment
- * Pleasant light arrangement
- * Perfect cooling systems
- * Easy approach to the public
- * Power supply – Standby source

Vacancies are determined either from actual observations from a number of inspections or on the basis of averages for similar establishments.

Shows include Morning Shows, Noon Shows, Evening Shows, Night Shows, Special Shows, Etc.,

The entertainment Tax varies with individual state Governments. The TamilNadu Govt. has fixed the entertainment Tax as 40 % of the daily collection from exhibiting the pictures.

INCOME FROM OTHER SOURCES

They are:

- * Income from Exhibiting the Advertisements
- * Income from Exhibition of Slides.
- * Rental Income from Stalls, Coffee Houses, Cool drink Shops, Ice Cream Parlour, etc.,
- * Rental Income from Car Parking and Cycle Stand.
- * Rental Income from showcases.
- * Miscellaneous Income from Weighing Machine etc.
- * Advertisement display on walls.
- * Income from Hoardings display.
- * Interest for the deposits paid by the contractors of stalls.

EXPENSES

The heads of expenses are:

- * Preliminary Expenses
- * Working Expenses
- * Repairs and Depreciation
- * Owner's Profit

Preliminary Expenses

- * Film hire charges to the distributors
- * Hire charges for the Indian News Reels
- * Local Tax, if any
- * Other Taxes connected to Cinema Business

Working Expenses

- * Establishment charges like Staff Salary, Gratuity, Bonus, Provident Fund, Welfare Fund.
- * Consumables like Carbon Electrodes etc.,
- * Running cost of generators, cooling appliances.
- * Legal Expenses, Auditors fees.
- * Electricity
- * Printing
- * Postage
- * Property tax
- * Ground Rent if any
- * Traveling & Conveyance
- * Packing and Forwarding
- * Stationery
- * Publicity
- * Various License Fees
- * Bank Commissions
- * Office Expenses
- * Railway Freight, Octroi
- * Telephone, Telegrams
- * Insurance for Plant & Machinery, Equipments, Furnitures

- * Insurance premium to the Building
- * Subscription to Associations
- * Entertainment to Guests
- * Miscellaneous

Repairs and Depreciations:

- * Suitable Depreciation
- * Repairs and Maintenance of Building
- * Maintenance of Plant & Machinery
- * Sinking fund for Furnitures

The following percentages are normally adopted as depreciation:

Theatre Buildings	:	2.5 %
Furniture	:	15 %
Machinery	:	20 %
Cooling Plant	:	10 %
Electrical Fittings	:	10 – 15 %

Allowance for Repairs and Maintenance of the buildings is normally assumed between 1 to 2 % and this does not exceed by 3 %.

Sinking fund deduction is required to be made for replacement of Furnitures, Fixtures, Plant & Machinery etc., which require periodic replacements. The deduction should be calculated not on the prime costs but on prevailing costs of replacement less accumulated sinking fund reserves of earlier year on remaining period of anticipated life.

Owner's Profit:

If the owner runs the Cinema business on his own under his direct supervision, guidance and control, a percentage of 15 % as Owner's Profit on the total gross income excluding the entertainment tax is to be taken into account as an expense.

This percentage covers the items like

- * Interest on Capital Blocked up in his assests
- * Interest on Capital required for day to day Working.
- * Trade Profit which is due to his labour, Skill and Managements.

* Allowance for Risk Element.

PROFIT AND CAPITALISING

Profit = Gross Income – Expenses

The profits are to be apportioned to two categories, namely

1. Profit from intangible assets and
2. Profit from Tangible assets.

The ratio of intangible profit to Tangible profit is normally 1:3.

While Capitalising, a higher rate of interest is to be adopted for intangible profit than Tangible profit since efficient running the Cinema business depends upon the good Management, Good will and license.

Here 12% capitalization is adopted for Tangible profit and 14% Capitalisation is adopted for Intangible Profit.

CASE STUDY: EXAMPLE

Valuation of Cinema Theatre by adopting profit method is explained by means of a Case Study.

Data:

Type of Theatre	:	Permanent – Non A/c
Location	:	Municipal Limit
	:	I class 250 @ Rs. 10.00
	:	II Class 300 @ Rs. 7.00
	:	III Class 250 @ Rs. 5.00
No. of Shows / day	:	4
Average Percentage	:	60 %
Occupancy	:	
Entertainment Tax	:	40% of Daily Collection
Distributors Share	:	Average 50% of the Daily collection after deducting the Entertainment Tax.
Advance received from stalls	:	Rs, 4,00,000/-
Conductor of the Theatre	:	Owner

COMPUTATION OF INCOME

Income from Exhibiting The Pictures:

Class	No. of .Seats	Rate Rs.	Collection per show Rs.
I Class	250	10.00	2500.00
II Class	300	7.00	2100.00
III Class	250	5.00	1250.00
Total			5850.00

Collection Per show for full occupancy	=	Rs. 5850.00
Collection for 4 shows of full occupancy	=	Rs. 23400.00
Average occupancy percentage	=	60 %
Average Collection Per day 0.6 x 23400	=	Rs. 14040.00
Average Collection per year 14040 x 365	=	Rs. 51,24,600.00
Less Entertainment Tax 40% paid to the Govt	=	Rs. 20,49,840.00
Gross Annual Income from exhibiting the pictures	=	Rs. 30,74,760.00
	= Say	Rs. 30,75,000.00

Income from other Sources (Per Annum):

1. Advertisement Reels Average 3 Nos. @ Rs. 200 per week	=	Rs. 31,200.00
2. Advertisement Slides Average 10 Nos. @ Rs. 50 per month	=	Rs. 6,000.00
3. Showcases rent @ Rs. 500 per month	=	Rs. 6,000.00
4. Rent from Wall Display, @ Rs. 400 per month	=	Rs. 12,000.00
5. Rental Income from stalls, Car Parking @ Rs. 250 per day	=	Rs. 91,250.00
6. Interest on deposits 15% of 1,00,000	=	Rs. 15,000.00
7. Miscellaneous Income	=	Rs. 6,500.00
Total Income	=	Rs. 1,67,950.00
Say	=	Rs. 1,68,000/-

Total Income:

Income from exhibiting the shows	=	Rs. 30,75,000.00
Income from other sources	=	Rs. 1,68,000.00
Total Gross Income	=	Rs. 32,43,000.00

COMPUTATION OF EXPENSES:**Preliminary Expenses:**

Film Hire Charges to the distributors @ an average 50% (0.50 x 30,75,000)	=	Rs. 15,37,500.00
Hire Charges to Indian News Reel at 1% 90.01 x 30,75,000)	=	Rs. 30,750.00
Tax of sales Tax Department for exhibiting Slides and Reels at 60 paise/ slide/show (13 x 0.60 x 4 x 365)	=	Rs. 11,388.00
Total	=	Rs. 15,79,638.00
Say	=	Rs. 15,80,000/-

Working Expenses:

Establishment charges at an average of 10,000/month	=	Rs. 1,20,000.00
Consumables at Rs. 700/month	=	Rs. 8,400.00
Electricity @ Rs. 2,500/month	=	Rs. 30,000.00
Generator Expenses @ Rs. 500/month	=	Rs. 6,000.00
Stationery, Printing, Publicity, Office Expenses @ Rs. 2000/month	=	Rs. 24,000.00
Travelling and Conveyance @ Rs. 1,500/month	=	Rs. 18,000.00
Telephones and Posts @ Rs. 500/month	=	Rs. 6,000.00
Railway Freight @ Rs.100/month	=	Rs. 1,200.00
Insurance Premium	=	Rs. 3,000.00
License Fee – Collectorate, Electrical Certificate, Stability Certificate – Average /year	=	Rs. 5,000.00
Entertainment to Guests	=	Rs. 900.00
Subscription to the associations	=	Rs. 300.00

Property Tax	=	Rs. 5,600.00
Profession Tax	=	Rs. 1,250.00
Miscellaneous	=	Rs. 950.00
Total	=	Rs. 2,30,600.00

Repairs & Depreciation:

Depreciation to Machinery	=	Rs. 15,000.00
Depreciation to Building	=	Rs. 10,000.00
Maintenance Expenses	=	Rs. 28,000.00
Furniture	=	Rs. 5,000.00
Total	=	Rs. 58,000.00

Owner's Profit:

15 % of
Rs.32,43,000 = Rs. 4,86,450.00

Total Expenses:

Preliminary Expenses	=	Rs. 15,80,000.00
Working Expenses	=	Rs. 2,30,000.00
Repairs and Depreciation	=	Rs. 58,000.00
Owner's Profit	=	Rs. 4,86,450.00
Total	=	Rs. 23,54,450.00

Profit

Gross Income	=	Rs. 32,43,000.00
Total Expenses	=	Rs. 23,54,450.00
Profit	=	Rs. 8,88,550.00

Capitalisation:

Tangible Profit @ 75% of Rs. = Rs. 6,66,413.00
8,88,550/-

Intangible profit @ 25% of Rs. 8,88,550	=	Rs.	2,22,137.00
Capitalise Tangible Profit @ 12%	=	Rs.	6,66,413 x $\frac{100}{12}$
	=	Rs.	55,53,442.00
Capitalize Intangible Profit @ 14%	=	Rs.	2,22,137 x $\frac{100}{14}$
	=	Rs.	15,86,693.00
Total (5553442 + 1586693)	=	Rs.	71,40,135.00
Say	=	Rs.	71,40,000.00
Assessed Value of the Above Cinema Theatre by Adopting Profit Method	=	Rs.	71,40,000.00

5) DIRECT COMPARISON METHOD:

Apart from the above four methods, a valuer can estimate the present worth/ market value of property consisting of land & Building by adopting comparable sale instances of the composite rate. The procedure is discussed here.

Under the comparison of properties, no two properties are not same. Hence to get exact comparison of the properties is difficult. But here realistic value can be obtained following some factors to be considered in this method.

1. The final unit composite rate is to be arrived at after comparing sufficient number of sale instances.
2. Comparison must not be based upon the sale agreements or mere offer to buy/sell.
3. Comparison must not be based upon the forced sale value, distressed value, as these will normally give only a lower value.
4. Comparison must not be based upon the desired value, value yielded due to absolute necessity as these will normally give a comparatively more value.
5. Abnormally high or insignificantly low value properties must not be considered. Sale to relatives or cooked up sale will not be a suitable case for good comparison.
6. Genuine transaction must have been carried out in the open market.

7. The sale transaction must have been carried out in the open market.
8. It is preferable that the period of sale instances must be nearer to the period of valuation of the property under valuation.
9. Composite rate of bigger property must not be based upon sale instances of a smaller property as far as possible (and vice versa).
10. It is preferable to compare sale instances of residential buildings for the purpose of valuation of a residential buildings and likewise.
11. The unit of comparison must be the same for the properties to be compared. If the carpet area is the basis for property under comparison, the same unit must also be the basis for valuation of the subject property.
12. Premises (similar in character) should more or less be similarly situated in the same locality with same type of user.
13. Location of premises with respect to floor and its position on the floor specially for road view etc. must be similar.
14. Provision to construct further floors must be a factor to be considered.
15. The extent of area must be comparable.
16. Factors like encumbrance free title deeds involved in the transaction and the nature of occupation (whether vacant, tenanted. Encroachment etc.,) must be considered.
17. When the market Value is to be determined on the basis of sales of land in the neighbourhood with same character, it is opined that the potential value need not be separately added because such sales cover the potential value also.
18. The comparable property must be inspected thoroughly with regards to:
 - * Accommodation provided – whether Residential or Commercial
 - * Architectural design – Whether conventional or modern.
 - * Quality of construction – whether superior, ordinary or inferior.
 - * Quality of materials used.
 - * Type of Construction
 - * Parking facilities.
 - * Amenities – Whether bare minimum or more.
 - * Specification – whether rich / ordinary/ medium.
 - * Occupants – whether vacant possession or tenanted.
 - * Rent fetching – whether the property fetches more rent or less rent comparatively.
 - * Return frontages – whether property having a single road or more roads and if so-whether width of road is less or more.
 - * Locational Advantage

PROCEDURE OF VALUATION

It consists in comparing the property under valuation with the more or less similar property in the locality, make suitable adjustments in the rate if specification varies and there after arriving at a suitable composite rate per unit area.

1. Assess the composite rate of the property under comparison
2. Adopt this rate as the basic rate for the property under Valuation.
3. Make suitable adjustments for :
 - a) Superior /inferior specification and depreciation
 - b) Extra Amenities
 - c) Locational advantage
 - d) Factors favouring extra value
 - e) Factors affecting less value, etc., as discussed.
4. If the land is vast, and the plinth area of the building is less do the valuation:
 - a) For building & appurtenant land, adopt the composite Rate.
 - b) For excess land, adopt the prevailing unit land rate.
 - c) Add both to arrive at a realistic value.
5. As far as possible, it is better to compare with a property recently transacted. If much earlier sale instances are to be compared inevitably due to non-availability of recent sale instances, then the composite rate must be suitably increased depending upon the escalation trend in the locality. However if the market trend is stable, the same rate can be considered, of course depending upon the other local condition. Valuer must be a good judge.

References:

1. B. Kanagasabapathy, - Practical Valuation Volume I, II, III.
2. Shrikanth Vasanth Joglekar, Mumbai Publications 1993-94, Valuation – Revaluation a New Vista Its Impact on Finance Everyone’s Concern.
3. C.H. Gopinath Rao, Valuation Practice of Immovable Properties
4. B. Kanagasabapathy, Fair Rent Manual
5. B. N. Dutta, Estimating and costing.
6. Journals of Institution of valuers – New Delhi

www.drSmau.in