



APPLIED VALUATION

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COST APPROACH

EAEQ 3209: LESSON TWO



1- Cost Approach

- Provides an indication of value using the economic principle that a buyer will pay no more for an asset than the cost to obtain an asset of equal utility whether by purchase or by construction (IVSC-2013).



Cost Approach

- **1- By Purchase**

The market value is equal to the purchase price/cost of acquisition





Cost Approach

- **2- By Construction**

Market Value of Land
HBU

+ Cost of improvements

+/- Profit/Loss on
improvements

- Depreciation (on
improvement + profit)

+/- Adjustment to reflect
interest being valued



Procedure

- 1. Estimate Market Value of land as though vacant assuming Highest and Best Use.
- 2. Estimate the direct (hard) and indirect (soft) costs of the improvements.
- 3. Estimate an appropriate entrepreneurial profit or incentive from analysis of the market.
- 4. Add estimated direct costs, indirect costs, and entrepreneurial profit or incentive to arrive at the total cost of the improvements.
- 6. Estimate the amount of depreciation in the improvements.
- 7. Deduct estimated depreciation from the total cost of the improvements
- 9. Add land value to the total depreciated cost of all the improvements to arrive at the indicated value of the property.
- 10. Adjust the indicated value of the property for any personal property (e.g., furniture, fixtures, and equipment) or any intangible asset value that may be included in the cost estimate. If necessary, this value, which reflects the value of the fee simple interest, may be adjusted for the property interest being appraised to arrive at the indicated value of the specified interest in the property.



Site Value

Value Concept and Principles:

- **Anticipation:** Value is created by the anticipation of benefits to be derived from the land in the future.
- **Supply and Demand:** The economic use of the land will determine its value.
 - If development will result in higher incomes- value of the land will be higher
 - If development will result in lower incomes- value of the land will be lower
 - If plots are fewer plots – competition will be higher leading to higher price
 - If plots are many – competition will be lower leading to lower price
- **Substitution:** The buyer will not pay more for a parcel of land than it costs to obtain an equivalent parcel. The greatest demand will be generated for the lowest priced land of similar utility.



Site Value

The value of land will be affected by the restrictions:

- Planning parameters
 - User - e.g. commercial, office, residential, institutional, play ground
 - Plot ratio – e.g. 300% in Upper Hill, 600% in CBD
 - Height restrictions – e.g. near Department of Defence, Airports
 - These restrictions may be in the title or the zonation of the particular area where the land is located
- Rights attached to the property, e.g. wayleaves, lease on land.
- Residents association may protest certain developments if not complying with development vision of the area



Site Value

- **Physical characteristics and site improvements may affect Value:**
- size,
- gradient,
- shape,
- views,
- frontages to roads,
- location,
- Drainage,
- Services; water, electricity, sewer,
- topography



Site Value

- Land is always considered as vacant even if developed.
- Land must be value at highest and best use.
- The value of the land may be less, equal or greater than the value of land plus the value of the improvements.
- The value of the improvements is obtained by subtracting the value of the land front the value of the total development
- Demolition cost may be subtracted where the value with the development is lower than the value of land in its HBU
- You may be required to value land according to its use or conditional use; as appraiser you can give the HBU and use values



Site Valuation Method

• 1- Market Approach

- Sales of similar vacant parcels are identified, analysed compared and applied to the property under valuation.
- This is the most preferred and easily understood method.
- Used where comparables are available.
- It is limited by lack of sales.

• 2- Extraction/residual

- You estimate the depreciated cost of development and subtract it from the value of the property to get the value of land.



Site Valuation Method

Valuation Procedure

1. Collect data on actual sales, listings, offerings.
2. You will require to eliminate outliers as these may indicate they are not comparable.
3. Identify areas of similarities and differences.
4. Find the highest and best use of each comparable.
5. Make adjustments to the sale prices to reflect the differences with the subject land.
6. Make value judgement.

NB: Value reflects freehold interest thus if any other interest is being valued adjustment should be made.



Cost of Development

- The cost approach like the other market approach and income approach is base on comparisons.
- You compare the cost to develop the property with that of similar units in terms of utility.
- Adjust for age, condition and utility.
 - You will be estimating the market perception of the property relative to a newer one.
- Cost of development include:
 - All directs costs
 - Indirect costs
 - Entrepreneurial profits



Cost of Development

Direct Costs (Hard Costs)

- Building permits
- Materials, products, and equipment
- Labor used in construction
- Equipment used in construction
- Security during construction
- Site office
- Material storage facilities
- Power line installation and utility costs
- Contractor's profit and overhead,
- Performance bonds

Indirect costs (Soft Costs)

- Architectural and engineering fees.
- Environmental studies
- Appraisal, consulting, accounting, and legal fees
- Insurance expense
- Administrative expenses of the developer



Basis of cost

Reproduction Cost

- Cost to construct an exact duplicate or replica of the building using the same materials, construction standards, design, layout, and quality of workmanship.
- Deficiencies, super adequacies, and obsolescence of the subject building are retained.

Replacement Cost

- Cost to construct a building with utility equivalent to the building being appraised, using contemporary materials, standards, design, and layout.
- Usually cheaper, uses available materials cure functional obsolesce etc.



Cost estimation techniques

1- Comparative Unit Method

- Use comparable building development cost.
- Cost per unit of area, e.g. kshs.50,000/- per sq.m.
- Adjustments are made for market conditions and for physical differences and location.
- Indirect costs may be included.
- Cost varies with project size, larger developments may cost less, taller buildings may cost more etc.
- Uncomplicated, practical, widely used.
- Cost of the building can be extracted from sales by deducting the value of the site.



Cost estimation techniques

2- The Unit in Place Method

- Work with unit components
- Compute actual unit cost based on the material used eg
- Excavation
- Foundation
- Walling
- Roofing
- Electrical etc
- These are totalled up



Cost estimation techniques

3- Quantity surveying method

- The most comprehensive and accurate method of estimating cost.
- Quantity and quality of all material used.
- Unit costs are applied to obtain cost of material and labour.
- Margin for contingencies, overhead and profit are added.
- It is time-consuming, costly, and frequently.
- requires the services of an experienced cost estimator, Quantity Surveyor



Cost Data Sources

- Construction contracts usually reduced per sq.m/ft.
- Building contractors.
- Quantity surveyors, cost estimators etc.
- Property owners.
- Cost manuals e.g. Ministry of Public works
- Cost index



Entrepreneurial Profit

- Economic reward to undertake the risk of construction
- Sometimes a project may result in a loss in which case the reward will be negative (Loss)
- Entrepreneurial profit may be attributed to:
 - Land
 - Building
 - Both



Depreciation

- Depreciation is the difference between the contributory value of an improvement and its cost at the time of valuation:
- Depreciation in an improvement can result from three major causes operating separately or in combination:
 - **1. Physical deterioration** - wear and tear from regular use and the impact of the elements.
 - **2. Functional obsolescence** - a flaw in the structure, materials, or design that diminishes the function, utility, and value of the improvement.
 - **3. External obsolescence** - a temporary or permanent impairment of the utility or salability of an improvement or property due to negative influences outside the property.
- The market recognizes the occurrence of depreciation; the valuer merely interprets how the market perceives the effect of depreciation.



Limitation

- Used where there is lack or limited of market, sale and income data.
- Used in relatively newer buildings.
- Used in construction projects.
- Used in for special values/special properties not frequent in the market
- Useful in appraisal for insurable assets since it separated land from the building components
- Used in feasibility studies (feasible where the market value exceed cost +reasonable entrepreneurial profit)