

RESEARCH ON VALUATION OF FARM LAND

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Abstract - Agricultural and allied activity started as an art, developed into a science and with application of technology, is growing into an industry.

It is very vast subject to deal with, in view of the many types of agricultural assets existing and the differing types of valuation involved. Generally, agriculture involves animal husbandry and other "Allied activities" related to the agricultural farms. This Project studies the many factors and components which will be affecting the value of the Farm land with the allied activities. Farm land not only include the Valuation of the land but all so the Crop Estimation, Animal husbandry setup and their allied activities which helps sustaining the complete farm. It values as a whole, rather than considering the each and every aspect separately of the Farm Land.

This project will help understanding all the methodologies involved in deriving the valuation of the Farm Land.

Key Words: Farm Land, Agricultural, Valuation, Value, Crop estimation.

1. INTRODUCTION

Agricultural valuation is an all pervading art, requiring the knowledge of valuation of immovable properties, crops/plantations, machinery/transport, varying stocks of materials/stores/produce, stocks in process, etc. In addition, valuation of breeding livestock, drought animals, poultry and allied activities are also involved.

Working knowledge of many branches of applied sciences and evaluation of many production processes are also required, for the valuer, in addition to knowing economics, commerce and law.

Though Categories for valuation are laid down separately for agriculture lands, plantations and forests, overlap exists between the categories, leaning more towards agricultural lands than to the other categories of plantation and forests.

2. AIM OF STUDY

This study will help the owners, beneficiaries, concern authorities to know the actual farm valuation and true worth of all allied activities which are generally left out for which a farm owner had spent lot of time, money & efforts in establishing it.

The study's focus is on the agricultural land asset class and on appropriate valuation methodologies to assess the market value of this asset class.

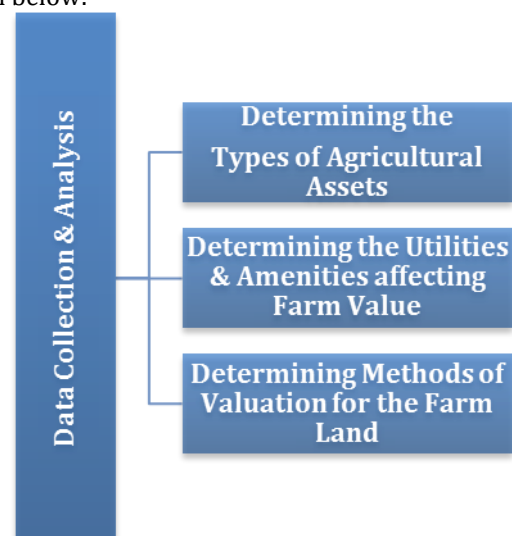
The aim is to provide insights into the valuation of agricultural land and assist Valuers to make informed decisions. This helped to direct the research focus throughout the process.

3. AIM OF STUDY

- To determine the most appropriate methods for the valuation of agricultural land.
- To identify alternative methods of valuing agricultural land that are compatible with established economic theories, practitioners' bases of value, the historical context, and other relevant factors.
- To assess the accuracy of the selected method(s) in providing supportive evidence in the estimation of the market value of agricultural land.
- To improve the availability and accessibility of agricultural land market data.
- To reveal the dominance of value attributes applicable to farming as HBU when valuing farms bought primarily for lifestyle purposes.

4. RESEARCH METHODOLOGY

The Phases/Parts for this project work is applied as per Flow Chart for assignment of "VALUATION OF FARM LAND" is shown below:



4.1 Data Collection & Analysis

The methods for the valuation of the Farm Land may vary from case to case. The methods chosen for valuation should be suited to the particular requirements. Some of the main purposes of agricultural valuation are

- a) Sale and purchase/buy of agricultural property,
- b) Hypothecation/pledging of property for taking loans from banks/ Financial Agencies.
- c) Acquiring the agricultural lands for public purposes for laying of roads/ railways / irrigation and power projects, etc.
- d) For ascertaining taxes payable under direct tax laws/ appropriate tax laws, to define losses under crop insurance, etc.

4.2. Valuation for Types of Agricultural Assets

a) Valuation of Farm Buildings

The reproduction costs of the buildings are to be found out for the location; situation and thus the depreciation charges for the age of the building are to be determined. The Present/Current condition (Useful life left) should be taken into account to arrive at the present value of the buildings. The present value can be obtained by deducting depreciation from the reproduction cost and multiplying the result by the "Condition Factor".

b) Valuation of land development and soil/water conservation structures:

To increase the profit potential of the land, agronomical requirements of the land are to be improved. Top soil is to be examined for depth, structure and texture. Sub- Soil should be observed for composition. Drainage system for irrigation water and improvement of the soil to retain required moisture are also of great importance. For these purposes, land terracing, levelling, bund forming, making water channels, Land reclamation, providing soil and water conservation structures etc. are to be undertaken. These are labour and cost intensive items to be evaluated and added to land cost.

c) Minor Irrigation Systems:

The assets of the systems may contains of different types of wells as water sources, conveying of water to different land holdings and distribution of water on different farms effectively with least wastage of water, assisted by sprinklers or drip irrigation systems. The items of valuation consists of dug wells, dug-cum-bore wells, depending on wells, renovation of wells, bore wells, tube wells, filter points, pump sets, sprinkler sets, laying of pipe lines, energisation of pump sets, lining of canals etc.

The stage wise costs of ground water survey and detailed construction methods adopted are to be costed systematically, including development of the well.

d) Valuation of Machinery & Farm equipment:

The replacement cost new at site, of the machinery is to be arrived at and the depreciation due to age is to be deducted there from. The result is to be multiplied by "present condition factor", to arrive at the market value as on date of appraisal. The depreciation percentages to be adopted vary for the type of machine, the type of the soil and the state of maintenance of machinery. Tools and implements are expected to last one to three years.

e) Valuation of Livestock (Work Animals):

Bullocks and camels are the major and important livestock kept on farms. Cost price minus depreciation would give the present value of the livestock. Camels are considered as similar to two bullocks.

f) Valuation of seeds, feeds, growing crops and other inputs:

These are valued at the present market price.

g) Valuation of plantation crops:

The plantation crops have three stages of development.

- 1) The first/Primary Stage is the "Establishment Stage" when investments are to be made on land development irrigation arrangements, creation of infrastructure like fencing /farm structures etc. and raising of the plantation crop and expecting for the harvest of the commercial crop / fruits.
- 2) The second stage is of the "maintenance stage" which can take up some years to start, till the fruits / commercial crops might be harvested in stages/parts for a considerable number of years, the returns increasing year to year and starts diminishing thereafter.
- 3) The third stage is that the planting of new trees / bushes of the plantation on land reserved for this purpose, in order that continuity of the produce could be maintained.

The "**establishment costs**" include all the expenses incurred in establishing the plantation during the establishment stage, at the current wage rates and costs of inputs/factors and the apportioned costs on investments on permanent assets.

The "**maintenance costs**" include the material costs incurred in performing various operations in the "established plantations", during the fruit bearing period. The interest charges on investment on the uncultivated land kept for replantation's, should be added to the total farm value.

Since a range of assets are to be valued in agriculture, like land, farm buildings, machinery, livestock, standing crops purchased farm supplies, and a number of other classes of items different methods of valuation are to be adopted, as applicable to the class and category of items.

4.3. The procedure to be adopted to make an appraisal of agricultural assets consists of:

- a) Identification and classification of the class of assets to be valued like land, structures; machinery, stocks, live etc., and listing them.
- b) Determining the periodicity of investments and periodicity of the expected returns. Some crops yield monthly, quarterly or yearly returns and plantation crops start yielding returns after some years, progressively and taper off gradually. The characteristic or the yield of rive stock are entirely different.
- c) Determining the inputs and evaluating them as nearly as is feasible, Inputs might be owned, hired or purchased and need to be evaluated accordingly. An account of the owned inputs like seeds, green / farm manure, animal labour family contributed labour are never available with the farmer, but need to be evaluated to acquire the true picture.
- d) Choosing the capital evaluation techniques, suited to the category of assets and applying them either singly or in blend.
- e) Carrying out pricing of the assets at the values judiciously attained at, by computation.
- f) Applying the suitable depreciation formula and determining the depreciation amount for deduction.
- g) Determining the rentals, and interest on capital for deduction as expenses.
- h) Arriving at the present/current market value of numerous items and adding up the present/current market value of the enterprise as a whole.

4.4. List of Outgoings on an Agricultural Farm to be Valued and Deducted, From Gross Returns (i.e. from Gross margin):

The typical inputs into the agricultural farm and their sources of contribution are given below:

- a) Human labour
- b) Hired
- c) Contributed by the family &
- d) Total.
- e) Animal Labour (owned and hired)
- f) Machine / implements labour (owned and hired)
- g) Seeds (produced on the farm purchased)
- h) Manure (Green/ farm obtained as by-products of self/ possession or purchased)

- i) Fertilizers (purchased from subsidised sources / open market)
- j) Irrigation charges
- k) Plant protection measures (from owned resources / hire / purchased)
- l) Land cess paid to Government
- m) Rent paid for leased land
- n) Rental value of owned land
- o) Depreciation
- p) Interest on fixed capital
- q) Interest on working capital.

"Standard Cost" of unit production are often assessed only approximately, since precise details of inputs and their costing are rarely available from the farmer, who doesn't keep detailed "farm accounting". Hence the price determined by one pains taking appraiser will rarely tally with the valuer attained at by an equally enterprising valuer.

4.5. Methods of valuation and their Applicability to the class of assets:

The methods of valuation and their general applicability range are given below:

1. Purchase cost minus depreciation method :

The method is usually used for valuation of working implements and small gadgets recently purchased generally from year to year once in 2 to 3 years. This is often also applicable to breeding livestock but it's inapplicable to things produced on the farm.

2. Valuation at purchase cost or market price (whichever is lower):

This method is applicable to the purchased farm supplies like seeds, fertilisers, pesticides etc.

3. Nett selling price methods :

This method used for items held primarily for sale/purchasable, like crops or live stocks, produced for the market, but are inapplicable to farm buildings, soil conservation structure, irrigation structure etc. of whom no actual market may exist.

The method approximates closely represents to the present worth. It represents the market price (Minus Selling Costs)

4. Replacement cost minus depreciation :

This method is best suited to farm buildings and other long lived farm assets, whose prices vary widely. This method avoids under valuation.

5. Incomes capitalisation method :

This method is suitable for long life assets like agricultural lands whose contribution to business income of the farm or

plantation is measurable. In practice, neither the annual income, nor the future interest rates are accurately known. As a result, this method is successfully combined with other methods like "Valuation at market price".

4.6. Method of computing depreciation on agricultural assets:

Since the assets have already been identified and classified the depreciation as applicable to the class of assets are to be calculated. Some of the methods available for computing the depreciation are:

- Annual revaluation method
- Straight line method
- Diminishing balance method
- inventory method

4.6.1. Annual Revaluation Method:

This is applicable to live stock, during the initial phase of their lives (also called the appreciating or breeding phase).

In this method, the market value of the assets within the estimated in the beginning of the year, followed by taking its costed inventory at the year end. The difference is taken into account as depreciation"

4.6.2 Straight Line Method:

The capital cost divided by the estimated economic life of the asset gives the depreciation. The annual depreciation cost of the asset remains the equivalent, throughout its economic life. The scrap value is negligible in the case of agricultural assets, since cost of removal of the scrap to the market place will invariably be more than the value for the scrap that may be obtained.

This is the utmost common method used for most purposes where assets are not used up at varying rates.

4.6.3. Diminishing Balance method:

The depreciation charges during earlier parts of assets life is higher than in the later years, as in the case of tractors and harvesting combines, where annual hours of working of the equipment when new, are quite high and therefore the farmer has brought them from his profit.

4.6.4. Inventory Method:

The depreciation charge is calculated as a fixed/ static percentage of the diminishing value. This is often suitable for other sophisticated agricultural machines. The value of the machine is written off quickly, during the early stages, when repair cost may be anticipated to be low.

It is often convenient for calculating farm profits, though unsuitable for comparing operating costs of the machines

4.6.5. Miscellaneous Methods of Calculating depreciation:

These are compound interest methods and "depreciation according to use" methods

5. CASE-STUDIES

5.1 Case-Study 1:

Aim of the Case-Study was to ascertain the Fair Market Value of the immovable Agriculture Property along with the Existing Farm Home, Well, Borewell and other activities. The personal Inspection was done by "Mr. Ankit Mohabansi" along with the Farmer/Client "Balasaheb Khandve" on 27th August 2019 for the said purpose.

The Land is located 5 kms from Nashik Municipal Corporation Limits and is well connected to the City through Village Roads. The access to the land can be seen clearly with Puccha Road. The land is surrounded by Forest land but demarcation/ Land boundaries are seen at site clearly and it was shown by the owners.

No Such evidence is available for the Building Built-Up Area but after measuring the same at the site it was around 65.50 Sq.m

VALUATION OF :-		S No. 41/1 to 7/2C, Mhasrul Shiwar, Tal. & Dist. Nashik.		
PURPOSE :-		FAIR MARKET VALUE PURPOSE		
Valuation as on :-		28th August 2019		
NAME OF OWNERS		Mr. Balasaheb Eknath Khandve		
S. N O.	PROPERTY	AREA IN SQ.M.	RATE PER SQ.M	AMOUNT
A	Land	22700.00		
	Considering 90% Highest & Best Use potential of the land	20430.00	'875.00	'1,78,76,250.00
B	Built-Up of Farm House	65.50	'8500.00	'5,56,750.00
C	Depreciation			
	As per information age of Building is 22 year and Life of the Building can be considered as 40 Years upon proper Maintenance & Repairs.	55%	'8500.00	'3,06,212.50

	And considering no Salvage Value			
D	Well	Lump sum		₹1,50,000.00
E	Bore well	Lump sum		₹22,500.00
F	Fencing Works (Meters)	400.00	₹180.00	₹72,000.00
Valuation of Land & Building				₹1,83,71,287.50

5.2 Case-Study 2:

Aim of the Case-Study was to ascertain the Fair Market Value of the immovable Agriculture Property along with the Existing Farm Home, Well, Water Storage Tank and other activities.

The personal Inspection was done by “Mr. Ankit Mohabansi” along with the Farmer/Client “Mr. Shrikrushna Dattatray Wagh” on 8th August 2019 for the said purpose.

The Land is located 11 kms from Nashik Municipal Corporation Limits and is well connected to the City through Village Roads. The Road Connecting to the Farm is Tar Road. No Such evidence is available for the Building Built-Up Area but after measuring the same at the site it was around 48.00 Sq.m

VALUATION OF :-		Gut No. 395/1/B/1(Part), AmbeDindori Village, Tal. Dindori & Dist. Nashik		
PURPOSE :-		FAIR MARKET VALUE PURPOSE		
Valuation as on :-		20th August 2019		
NAME OF OWNERS		Mr. Shrikrushna Dattatray Wagh		
S. N O.	PROPERTY	AREA IN SQ.M.	RATE PER SQ.M	AMOUNT
A	Land	12700.00		
	Considering 90% Highest & Best Use potential of the land	11430.00	₹750.00	₹85,72,500.00
B	Built-Up of Farm House	48.00	₹9200.00	₹4,41,600.00
C	Depreciation			
	As per information age of	48%	₹9200.00	₹2,11,968.00

	Building is 24 year and Life of the Building can be considered as 45 Years upon proper Maintenance & Repairs. And considering 10% Salvage Value			
D	Well	Lump sum		₹1,15,000.00
E	Bore well	Lump sum		18000.00
Valuation of Land & Building				₹89,35,132.00

6. RESULTS AND DISCUSSION

Only the straightforward concepts of valuation for agriculture purposes have been dealt with, in outline' There are innumerable details to be gone in to, in actual evaluation procedures, depending on the particular cropping pattern and the purpose for which evaluation is required. Similarly the art of valuation has also many variable parameters. Hence valuation in agriculture can be characterised by many diversities such as,

- Diversity of groups / classes for assets to be valued.
- Diversity in periods of investments and therefore the consequents changes in periodicity of the returns thereon
- Occasional lack of firm predictability of returns on investment when "Nature" turns hostile or uncooperative, leading to losses in returns or maybe loss of capital works executed.
- The number of shifting parameters in every input for production, making it difficult to determine the actual cost of inputs and hence the difficulties in establishing actual cost of production.
- Multiplicity in application of the many capital evaluation techniques to diverse types of investments simultaneously, to the same parcel of assets to be valued.
- Complex variations within the calculations of depreciation of assets with time and usage.
- In fact agricultural valuation is an all pervasive art' requiring the knowledge of valuation of immovable properties' crops plantations, machinery / transport,

varying stocks of materials / stores / produce, stocks in process etc. In addition, valuation of breeding livestock, draught animals, poultry and allied activities also are involved.

Working knowledge of the many branches of Sciences and evaluation of the many production processes also are required, for the valuer, in additionally to knowing economics, commerce and law.



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7. CONCLUSIONS

So to conclude, Agricultural valuation can be quantified that a range of agricultural assets exists and their valuation requires different techniques, depending on the nature of assets and the particular situation at which evaluation has been called for. Basic concepts of agricultural valuation have been brought out in this article and the principles as to how to go about solving the problems outlined. The application of these concepts and principles would narrow down the variations in values towards the true value of the agricultural assets.

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BIOGRAPHIES



Mr. Ankit A. Mohabansi has completed his B.Arch. Degree at MVP College of Architecture Nashik. Did his M.Arch in Urban Design at SCAD, Savannah Georgia & GP in Project Management from NICMAR, Pune and having over 13 years of Experience in field of Architecture, Urban Design & Valuation.