
A P P E N D I C E S

A P P E N D I X I

(A) Explanation of terms used :

Operational holding: The area of land actually cultivated by the farmers and his family including the area under trees and wells, if these are in the cultivated field. It includes all area under self-cultivation whether owned or leased in. It includes current fallow also.

Gross income (Farm receipt or output)

It includes :

- i. Cash received on account of the sale of farm products.
- ii. Value of the produce, main or by-products used for home consumption and for cattle feed or given over as wages in kind.
- iii. Value of the seed stored for the sowing purposes.

Input or gross expenditure

It includes :

- i. Wages of hired labour paid in cash or kind or both.
- ii. Imputed wages for the farmer and his family.
- iii. Value of seed, manures and fertilizers and other cash expenses. Farm produced seed and manure are also included.
- iv. Cost of feed, fodder and concentrates.
- v. Repairs to dead stock.
- vi. Depreciation on livestock and deadstock.
- vii. Interest on fixed and working capital.
- viii. Rent of land whether rented or owned.

Net profit :

It is the difference between output and input (Gross income - total expenses).

Family labour income:

It includes net profit or loss plus the imputed wages for the labour of farmer and his family.

- Farm business income: Gross income minus total expenses of production excluding wages of the labour and interest on owned capital. It is a measure of the earnings of a farmer and his family for their capital investment, labour and managerial work.
- Percentage return to capital investment: This has been obtained by dividing the difference between the output and the cost of all input factors except interest on capital by the total value of fixed assets and then multiplying it by 100.
- Capital turnover: This has been obtained by dividing output per hectare by the total investment on fixed and operating capital.
- Management return: This has been obtained by subtracting the imputed value of family labour and interest on equity capital from net income per hectare.
- Financial Test Ratios:
- | | | |
|---------------------------|---|---|
| i. Capital turnover ratio | = | $\frac{\text{Gross revenue}}{\text{Capital}}$ |
| ii. Gross ratio | = | $\frac{\text{Total expenses}}{\text{Gross income}}$ |
| iii. Operating ratio | = | $\frac{\text{Total operating expenses}}{\text{Gross income}}$ |
| iv. Fixed ratio | = | $\frac{\text{Fixed expenses}}{\text{Gross income}}$ |
- Intensity of cropping : This has been obtained by dividing the cropped area by the area sown and then multiplying it by 100.
- Gross cropped area: This refers to the net area sown plus area sown more than once.
- Man hour unit (Human labour hour unit): Work for one hour by a male adult.

Man labour day (Human labour day): Consists of eight man hour units.

Bullock labour day: Consists of eight bullock labour hour units.

(B) Allocation and apportionment of costs :

Land : The price of the land is based on the prevailing rates for various grades of land in the village or in the neighbouring places. The actual price of sale and purchase of land has also been taken into account.

Implements and machineries price: They have been valued on their market price.

Livestock : These have been evaluated on their market price.

Manures and fertilizers: The home produced farm yard manures has been evaluated at rates prevailing in the locality. The fertilizers have been valued at their cost price plus transport charges. Their value has been charged to various crop enterprises according to the quantity used on them. No allowance has been made for the residual value of organic and inorganic manures.

Seed: This has been charged at current prices prevailing in the locality.

Fodder and feed: They have been evaluated at prevailing market price.

Hired labour: The value of hired labour includes wages paid both in cash and kind.

Family labour: It has been charged at current rate in the villages for permanent hired labour.

Bullock labour: The bullock labour has been charged on the basis of cost of maintenance which includes cost of feed, fodder, depreciation on the

value of bullocks, labour charges for their upkeep, interest and other miscellaneous expenses and deducting the value of dung, income from the work done outside the farm, if any, and then divided by number of working days in the year. Each working day being of 8 hours.

Irrigation:

For irrigation in case of tube-wells, the actual amount paid by the cultivators has been taken into account. In case of pumpin sets, the prevailing rate in the locality has been charged on per hour basis.

Rent (Land revenue):

It is usually paid for the entire holding. The per hectare rent has been determined by dividing the total revenue paid for the cultivated area. Allocation of land revenue for various crops has been done according to their growing period.

Overhead cost:

It includes interest on working and fixed capital, repairs and depreciations.

Interest on working capital:

It has been charged at the rate of 12 per cent per annum for half the period the crop remains standing in the field.

Interest on fixed capital:

It has been charged at the rate of 6 per cent per annum.

Repairs and upkeep:

Repairs to deadstock or upkeep of implement has been apportioned in proportion to bullock hour units utilized in different crops. This basis was adopted, as most of the use of the implements also involved the use of bullocks on the farms.

A P P E N D I X II

Cobb-Douglas equations (Final Run)

Crop + milk production combined

$$Y^{(0.72804)} x_1^{(0.2604)} x_2^{-} x_3^{(0.16677)} x_4^{(0.55595)} x_5^{(0.53949)} x_6^{(0.13452)} x_7^{-} x_8^{(0.41362)} \quad (R^2 0.6905)$$

Crop production, as a whole:

$$Y^{(0.6007)} x_1^{(0.2292)} x_2^{-} x_3^{(0.6296)} x_4^{(0.4381)} x_5^{(0.6475)} \quad (R^2 0.9077)$$

Milk production, as a whole:

$$Y^{(0.3272)} x_1^{(0.1987)} x_2^{(0.2988)} x_3^{(0.4987)} \quad (R^2 0.9878)$$

$$\text{Maize } Y^{(0.64349)} x_1^{(0.4281)} x_2^{-} x_3^{-} x_4^{(0.4878)} x_5^{(0.3384)} \quad (R^2 0.9566)$$

$$\text{Paddy local } Y^{(5.226)} x_1^{(0.6828)} x_2^{-} x_3^{(0.3378)} x_4^{(0.2131)} x_5^{-} \quad (R^2 0.8905)$$

$$\text{Paddy HYV } Y^{(1.0053)} x_1^{(0.1067)} x_2^{-} x_3^{(0.3157)} x_4^{(0.4543)} x_5^{(0.4239)} \quad (R^2 0.9279)$$

$$\text{Wheat local } Y^{(0.63338)} x_1^{(0.3315)} x_2^{-} x_3^{(0.2339)} x_4^{(0.1689)} x_5^{-} \quad (R^2 0.8367)$$

$$\text{Wheat HYV } Y^{(0.11807)} x_1^{(0.3444)} x_2^{-} x_3^{(0.3114)} x_4^{(0.5327)} x_5^{(0.3042)} \quad (R^2 0.8526)$$

$$\text{Sugarcane } Y^{(0.9052)} x_1^{(0.6767)} x_2^{-} x_3^{-} x_4^{(0.7293)} x_5^{(0.2813)} \quad (R^2 0.9657)$$