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Factor Costs, Income and Supply Shares in Indian Agriculture

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This paper reports (i) factor shares in total agricultural cost, (ii) factor shares in total household income and (iii) shares in factor supply, each disaggregated by agroclimatic region and expenditure class for rural India. Disaggregation of these shares by agroclimatic region and by expenditure class is important when a complete picture of the agricultural economy is sought. Different technological possibilities exist across agroclimatic zones, hence the assumption of a single production function common to all zones is inappropriate. Also, the further disaggregation by expenditure classes provides a useful benchmark when the likely welfare consequences of changing agricultural technologies are to be described. A particular technical change, be it capital-saving or labor-saving, would have varying impacts on the incomes of different classes depending on the structure of costs, the distribution of the ownership of productive factors and the shares of agricultural factor incomes in total income.

The main data source for this study is the 1970-71 round of the Additional Rural Income Survey (ARIS) undertaken by the National Council of Applied Economic Research (NCAER).[1/] The purpose of the ARIS was to measure the changes in income levels and income distribution and the consequent changes in the pattern of consumption, investment and savings of households

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1/ The ARIS survey covers 4118 households. For details, refer to National Council of Applied Economic Research, "Additional Rural Income Survey: Sample Design, Concepts and Definitions, and Data Available on Tape," NCAER, New Delhi, mimeo.

in rural areas of India. Data is available for a national cross-section sample of 4,118 households selected according to a multi-stage stratified sampling design. At the village level, households were stratified into three income groups - high, middle and low and those belonging to the high and middle groups were over-sampled. However, the shares we derive are unbiased because they are obtained using probability weights. Thus, households selected from higher income groups are given relatively smaller weights which offsets the effect of over-sampling.

The next section thoroughly discusses the methodology followed in obtaining the shares. A third and concluding section reproduces tables displaying the computed shares by region and expenditure class and discusses the results.

Section II: Methodology

1. Definition of Regions and Expenditure Classes

We define four agroclimatic regions on the basis of major crops grown and climatic type. These are the Semi-Arid Tropics (SAT) comprising Gujarat, Madhya Pradesh, Maharashtra, Rajasthan and most of Andhra Pradesh, Karnataka and Tamil Nadu. This is our most extensive region in terms of land area and the major food crops grown are inferior cereals like jowar, bajra and ragi. The rice-growing areas are divided up into two regions - Eastern Rice (ER), consisting of Bihar, Orissa, West Bengal, eastern Uttar Pradesh and all the North-Eastern states, and Coastal Rice (CR) consisting of Kerala and the coastal districts of Andhra Pradesh, Karnataka and Tamil Nadu. The Northern Wheat (NW) region is made up of Punjab, Haryana, Himachal Pradesh, Jammu and Kashmir and western Uttar Pradesh.

We define four expenditure classes on the basis of quartiles of the distribution of household per capita expenditure in the sample. Each household's per capita expenditure is weighted by the product of the corresponding sample weights and the number of people in the household so that each quartile group so obtained has an equal number of people (rather than households) in it. We use per capita expenditure to classify households in an attempt to describe some notion of the relative welfare of households in 1970-71 rural India. Had we instead used income as the classificatory variables we would have grouped most households who had a bad 1970-71 agricultural year in the lowest income class even though they may in fact be better off (in terms of wealth) than households in higher income brackets. At the same time, data on total household wealth are not available in the NCAER data set. Although the total amount of land owned by the household is available, this is not a good proxy for wealth, given that differences in the quality of land across agroclimatic zones exist and that the landless class in rural India also include entrepreneurs, professionals and so on. For these reasons, per capita expenditure appears to be the best variable in the data set to denote some measure of relative welfare of households.

Our expenditure classes are defined as follows:

Class 1: Households having per capita expenditures $\leq$ Rs 246.75.

Class 2: Households having per capita expenditures > Rs 246.75 and $\leq$ Rs 372.20.

Class 3: Households having per capita expenditures > Rs 372.20 and $\leq$ Ea 462.00.

Class 4: Households having per capita expenditures > Rs 462.00.

We identify five factors - labor, land, bullocks, farm equipment, and irrigation - for purposes of fertilizer, farm equipment and irrigation - when looking at shares in total cost. In the income shares, we consider incomes from land agricultural labor, bullocks (draft animals), farm assets (farm equipment, irrigation, etc.) in crop production, non-agricultural wages, salaries, self-employment, and all other sources.

In what follows, we discuss how, for each sample household in the data set, total factor cost, factor income and factor supply are computed for each agricultural input.

II.2. Labor

A. Cost of Agricultural Labor

A complete accounting of labor costs would consist of the imputed cost of family or own labor used in cultivation as well as paid-out expenses on hired labor. It is first necessary to obtain an estimate of total labor input by the family into the farm. The NCAER data does not have information on the number of days worked by the family on the farm. We therefore combined micro data from various district level Farm Management Studies (FMS) and ICRISAT surveys with the NCAER data to estimate this family labor variable. These sources contain information by district and by operational holding class on the days worked by the family (DWFAMW), the number of working members in the family (NOFAMW), and gross cropped area (GCA) in hectares. For each district and each of the operational holding classes relevant to that district, we compute

(1) WORKACRE = DWFAMW - NOFAMW - GCA

Thus, WORKACRE is the number of days per family member per gross cropped hectare. This variable was computed for the FMS districts of Cuddapah Surat, Raipur, Coimbatore and Pali and the ICRISAT districts of Mahboobnagar, Akola

and Sholapur in the SAT, the FMS districts of Nowgong, Peoria, Sambalpur, Cuttack, Hooghly and the 24 Parganas in the ER region, the FMS districts of Quilon, Alleppey, and Thanjavur in the CR region and the FMS districts of Ferozepur, Amritsar, Muzaffarnagar and Meerut in the NW region.

In the next step, we matched each FMS (or ICRISAT) district with one or more of the 99 NCAER districts on the basis of agroclimatic region, major crops grown and fertilizer use.[2]/ Each household in an NCAER district associated with a given FMS district was then given a value for WORKACRE, depending on the FMS-defined operational holding class it belonged to.

The NCAER survey classifies members of the household into earners, family workers and non-earners. Earners are distinguished from family workers by the fact that they have at least some outside employment. However, this distinction does not apply to the head of the household who is always classified as an earner. A non-earner can safely be assumed to be one who does not work on/or off-farm. Thus, to get an estimate of the number of family members who work on the farm, we adopted the following procedure. For those households that cultivate some amount of land, we define:

NOFAMW = 1 + MFW + FFW

where

NOFAMW = total number of family workers,

MFW = male family workers, and

FFW = female family workers.

2/ See Appendix I for this mapping.

We add one to the total of male and female family workers so as to include the head of the household. Note there are two possible sources of upward bias in our estimates - first, because the head of the household may not spend all his time on the farm and second, because family workers may include a number of those who are engaged exclusively in self-employment, non-farming activities. Data constraints make us unable to do anything about this. For households that do not report any cultivated land, we set NOFAMW = 0.

Finally, using the previously defined WORKACRE variable, we obtain an estimate of total labor input by the family into the farm.3/

(2) $FAMLAB = WORKACRE^{FMS} \times NOFAMW^{NCAER} \times GCA^{NCAER}$

where

GCA = gross cropped area (in hectares) and the superscripts denote the origin of the variable used.

To value the physical quantity of family labor input, (measured in man-days) we used a shadow wage which is taken to be the district level daily agricultural wage rate. For each observation/household, data on the average wage rate and on the number of days worked for each family member working as agricultural labor are available. We therefore first computed a weighted agricultural wage rate for each household where the weights used are the

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3/ Our procedure is clearly superior to that employed by Bhalla (1980). He uses a fixed value for WORKACRE which does not vary with farm size. Taking 300 days as full employment and assuming that an average large farm (defined as one having a cultivated acreage of 30.6 acres) keeps its family members fully employed, he arrives at a value of 300/30.6 = 10 days per acre per family worker. We observe however, from the FMS and ICRISAT data, that WORKACRE declines as operational holding size increases and take account of this by reading in different values of the variable depending on the size of operational holding for a particular household.

number of days worked by each family member. Then for each district, a second weighted wage rate was computed from all the households in the district. Here, the weights used are the product of the sample weights and the total number of days worked by members of the household as agricultural labor.

Data on paid-out expenses on labor (EXPLAB) is available for both Kharif and Rabi seasons and includes expenditure on permanent labor, casual labor and bullock labor. Since the market for hiring bullock labor is very limited in India, we feel justified in ignoring the expenditure on bullock labor and treating EXPLAB as if it were expenditure on human labor.

Thus, the cost of labor as a factor of production was obtained for each household as follows:

(3) COSTLAB = (MWAGE * FAMLAB) + EXPLAB

where

MWAGE = average daily agricultural wage rate for the district to which the household belongs.

B. Income from Agricultural Labor

To compute the total income from agricultural labor for each household (INCFAM), we simply added the imputed value of family labor and the income from agricultural wages (AGRWAG) which is directly available in the data set, i.e.,

(4) INCFAM = (MWAGE * FAMLAB) + AGRWAG

C. Labor Supply

Total labor supply (TOTLAB) is the sum of labor supplied by the household both on- and off-farm.

To determine the total number of days worked by family members away from the farm, we used NCAER data on periodicity of payment for off-farm

labor. This gives the unit of time measurement (daily, weekly, monthly or annually) and the number of such periods worked by each family member away from the farms. From this information, we obtained total work done off-farm as hired labor (expressed in terms of days) for all wage and salary earners in the household (OFFLAB). We also computed for the amount of labor used in non-farming self-employment (SFEMPLAB). This is computed straightforwardly as,

(5) SFEMPLAB = SFEMP/MSAL

where SFEMP is reported income from such activities and MSAL is a weighted district level salary rate measured on a daily basis as computed in the same manner as MWAGE for those in the household who report salary earners. It is used as a measure of the value of labor expended in self-employment, non-farming activities.

Total labor supply is then expressed as

(6) TOTLAB = FAMLAB + OFFLAB + SFEMPLAB

where

TOTLAB = total amount of labor supplied

FAMLAB = total labor supplied for farm employment

OFFLAB = total labor supplied for off-farm employment

SFEMPLAB = total labor supplied for non-farming self-employment

II.3. Bullocks

A. Cost of Bullock Services

This is the most intractable factor in terms of estimating its cost in production because of the lack of data. The NCAER data base contains neither the value nor the number of bullocks owned or hired by the household. Thus, it is not possible to compute bullock rental rates. However, the total value of all livestock owned at the beginning of the

reference period (LVSKBRP) and the total expenditure on livestock during 1970-71 (EXPLVSK) are available from the NCAER study.

Turning once again to the FMS and ICRISAT survey data described earlier, we computed for each FMS and ICRISAT district and each of the operational holding classes relevant to that district, the share of bullocks in the total value of owned livestock as follows:

(7) SBLKS = 1 - (VLVXBL ÷ VTLIVE)

where

SBLKS = share of bullocks in the total value of owned livestock

VLVXBL = total value of owned livestock excluding bullocks

VTLIVE = total value of all owned livestock

These shares (SBLKS) were then assigned to corresponding NCAER districts and households in exactly the same manner the WORKACRE variable earlier described was treated.

We computed the value of bullocks owned at the beginning of the reference period (BLKSBRP) and the expenditures on them (EXPBLKS) as follows:

$$BLKSBRP = (SBLKS^{FMS} * LVSKBRP^{NCAER})$$

$$EXPBLSK = (SBLKS^{FMS} * EXPLVSK^{NCAER})$$

where the superscripts again denote the origin of the variable used.

The cost of bullocks used as a factor of production is conceptualized as being comprised of (a) the opportunity cost of the capital invested in the animals (which is the return that could have otherwise been earned by loaning the capital out), (b) the depreciation cost of the livestock, and (c) the operational and maintenance cost for bullocks (EXPBLKS), i.e., the cost of purchased feeds, the imputed value of home produced feeds, veterinary expenses, etc.

In order to determine the opportunity cost of capital invested in bullocks, it was necessary to construct an interest rate. The NCAER contains information on the amounts borrowed, rates of interest and stipulated repayment periods for 3 different categories of loans - those for operational purposes, those for non-operational purposes and outstanding debt. We ignored this functional classification. Instead, we computed a weighted interest rate for loans of all types and maturities where the weights used were the amounts of the loans for each household that reported such information. Then, for each region and expenditure class, a second weighted interest rate was computed from all the observations comprising that set. Here the weights used were the sample weights for the households. The opportunity cost of the capital invested in bullocks was then computed as (BLKSBRP * MINT) where MINT is the interest rate appropriate to the particular region and expenditure class to which the household belonged.

For the depreciation cost of bullocks, we used a straight-line concept of depreciation since the NCAER does not give any information on the age distribution of bullocks. This implies a treatment of the bullock stock as if it were new, i.e., as if it had been purchased by the household at the beginning of the reference period. Assuming a deprecation rate of 20%, the depreciation component of total bullock cost is (BLKSBRP * 0.20).

We computed total cost of bullock services (COSTBLKS) as

(8) COSTBLKS = (BLKSBRP * MINT) + (BLKSBRP * 0.20) + EXPBLKS

Notice here that we used the total value of owned bullocks (BLKSBRP) rather than the value of owned bullocks used on the farm, in computing total cost. We do not know what fraction of bullocks owned by the household is leased out. However, since the market for leasing of bullock labor is very limited in India, we feel justified in using BLKSBRP as a proxy variable. In order

to be consistent, we do not include expenditures on leased-in bullock labor in the computation of COSTBLKS although it is possible to obtain this.

B. Income From Bullocks

Income from bullocks (INCBLKS) is the opportunity cost of capital invested in bullocks, i.e.,

(9) INCBLKS = BLKSBRP * MINT.

C. Supply of Bullock Labor

In the absence of any data on number of hours worked by bullocks, we used the value of bullocks owned at the beginning of 1970-71, i.e., BLKSBRP, as a proxy for the total amount of bullock labor supplied by the household.

II.4. Farm Equipment and Irrigation

A. Costs of Farm Equipment and Irrigation

To obtain the costs of using farm equipment and irrigation assets in crop production, we used a procedure similar to that used for bullocks. Costs were taken to be made up of (a) an opportunity cost of the capital invested in the equipment, (b) a depreciation cost of the equipment and (c) the actual operational and maintenance expenses incurred to keep and use these physical assets going. Assuming a depreciation rate of 15%, we thus computed the cost of farm equipment (COSTFMEQ) as:

(10) COSTFMEQ = (FMEQBRP * MINT) + (FMEQBRP * 0.15) + KTRAC + KTRES
+ RARAC + RTRES + KREPAIR + RREPAIR

where

FMEQBRP = value of equipment (tractors, threshers, plows, yokes, bullock carts, seed drills, winnowers, etc.) at the beginning of the reference period,

KTRAC = operational and maintenance expenses (Kharif season) for both hired and owned tractors,

RTRAC = operational and maintenance expenses (Rabi season) for both hired and owned tractors,

KTRES = operational and maintenance expenses (Kharif season) for both hired and owned threshers,

RTRES = operational and maintenance expenses (Rabi season) for both hired and owned threshers,

KREPAIR = expenses on repairs and maintenance of farm equipment other than for irrigation, tractor and thresher (Kharif season), and

RREPAIR = expenses on repairs and maintenance of farm equipment other than for irrigation, tractor and thresher (Rabi season).

As is the case of bullocks, we treated the stock of capital equipment as if it were new in estimating depreciation cost because of the lack of any data on when the different pieces of machinery were purchased or made by the household.

The cost of irrigation (COSTIRAS) was computed as

(11) COSTIRAS = (IRASBRP * MINT) + (0.12 * IRASBRP) + KIRB + RIRR

where

IRASBRP = value of owned irrigation assets at the beginning of the reference period, and

KIRR + RIRR = expenses incurred for irrigation including repairs and maintenance of irrigation facilities and equipment and power and fuel charges for the Kharif and Rabi seasons.

For owned irrigation assets, we assumed a 12% depreciation rate.

B. Income From Farm Equipment and Irrigation Assets

Total income from farm equipment and irrigation assets is the

opportunity cost of capital invested in these assets, ie.e, (FMEQBRP * MINT) and (IRASBRP * MINT), respectively.

C. Supply of Farm Equipment and Irrigation Services

We used the value of owned farm equipment at the beginning of the reference period (FMEQBRP) as the proxy for the total amount of farm equipment services supplied by households. For the supply of irrigation services by households, we used the value of owned irrigation assets at the beginning of the reference period (IRASBRP) as the proxy variable.

II.5. Land

A. Cost of Land

Land costs need to be divided into the imputed cost of the cultivator's own land and the cost of leasing in additional land. Since land rent data is not directly available from the NCAER study, they had to be derived in the following manner. For those households which do lease in land, we computed:

(a) CRI = GCA/NCA

where

CRI = cropping intensity index,

GCA = gross cultivated area, and

NCA = net cultivated area.

(b) GLCA = LCA * CRI

where

GLCA = gross leased-in cultivated area, and

LCA = net leased-in cultivated area.

(c) MRENTAL = (KRENT + RRENT)/GLCA

where

KRENT = land rent paid out (Kharif season),

RRENT = land rent paid out (Rabi season), and

MRENTAL = rental per gross cultivated hectare.

A weighted average MRENTAL value was then calculated for each district. This was used as the appropriate land rental rate for all households in the district. The cost of land used as a factor of production was subsequently computed as

(12) COSTLAND = (OCA * CRI * MRENTAL) + (KRENT + RRENT)

where

OCA = net owned cultivated area.

In equation (12), the first expression in brackets is the imputed cost of using one's own land and the second expression gives the paid-out expenses on leased in land.

B. Income from Land

We define income farm agricultural land as the residual obtained by subtracting from net household agricultural income, the incomes arising from agricultural labor, bullocks and all farm assets. As such, we in fact treat land rental income as residual profits, i.e., agricultural profits after payments to agricultural labor, bullocks and all farm assets.

More specifically, in the NCAER data set, the gross income farm agricultural activity for each household (AGROSINC) is available. This is defined as the sum of (a) agricultural wages (AGRWAG) and (b) income from agricultural and allied pursuits (AGRINC) or all income obtained by deducting farm total gross receipts or value of agricultural output, all paid-out expenses incurred by the household to obtain these receipts. Thus,

(13) AGROSINC = AGRWAY + AGRINC.

Net agricultural receipts of the household is its gross income minus the

depreciation costs of all agricultural assets, i.e.,

(14) NETINC = AGROSINC - (LVSKBRP * 0.20) - (FMEQBRP * 0.15)
- (IRASBRP * 0.12) - (FMASBRP * 0.15),

where

FMASBRP = value of farm assets other than livestock or farm equipment and irrigation assets (godowne, cattle sheds, assets relating to the development of forestry, fishery, piggery, bee keeping, sericulture, poultyr, etc.)

Income from land (INCLAND) is

(15) INCLAND = NETINC - INCFAM - INCBLKS - FIXINC - INCFMAS.

FIXINC is the imputed income from farm assets in crop and livestock production, i.e.,

(16) FIXINC = (FMEQBRP + IRASBRP + OTHSBRP) * MINT

where

OTHSBRP = LVSKBRP - BLKSBRP, the value of livestock other than bullocks.

In equation (15), INCFMAS is the imputed income from FMASBRP, i.e.,

(17) INCFMAS = FMASBRP * MINT.

C. Supply of Agricultural Land

The total amount of effective land (i.e., gross corpped area) supplied by the household is given by

(18) TOTLAND = TLOERP * CRI,

where

TLOERP = total land owned by the household at the end of reference period.

II.6. Total Cost, Total Income and Total Supply

A. On Computing Total Cost and Cost Share

We define total cost as the sum of all the cost components relevant

to crop production and animal husbandry operations, where these crops include food crops, commercial crops, vegetables and fruits. It is not possible to use the NCAER definition of "total operating expenses during reference period (1970-71) on crop sector" for measuring the cost of crop production alone, because this includes only paid-out expenses and not the imputed costs of owned assets like land, labor, bullocks, etc.

Thus, our definition of total cost, covering expenses over both Kharif (K) and Rabi (R) seasons, includes the following:

(a) The costs of labor (COSTLAB), bullocks (COSTBLKS), farm equipment (COSTFMEQ), irrigation (COSTIRAS), and land (COSTLAND) as already described.

(b) The cost of fertilizer (COSTFERT).

This was obtained for each household as COSTFERT = KFERT + RFERT where KFERT refers to the value of fertilizer used in the Kharif season and RFERT to the value of fertilizer used in the Rabi season. Since about a third of all observations for KFERT and RFERT were found to be missing, regressions to obtain predicted values for these variables were run. In each region, KFERT and RFERT were individually regressed on net cultivated area, a cropping intensity index, agricultural income, stocks of irrigation assets, farm equipment and livestock and expenditures on seeds, manure and pesticides for the relevant season. The idea behind the exercise was to include all variables that one might expect to be associated with fertilizer usage rather than to use the regressions as causal explanations. Predicted values for KFERT and RFERT were substituted for missing values in those households that reported cultivating some land. Negative predicted values were set equal to zero.

(c) The cost of seeds, manures, pesticides and fungicide used (KSEED + KMANU + KPEST + RSEED + RMANU + RPEST) in the Kharif and Rabi seasons.

Since seeds and manure can also be produced on the farm, theoretically we should have included the imputed cost of home-produced seeds and manures in addition to the paid-out expenses on these items. However, since these have been produced as a by-product of the application of primary factors like labor and bullocks to land, and the costs of the latter, both imputed and paid-out, have been completely accounted for, we ignored this component of cost.

(d) The costs of animal husbandry operations (COSTOTHS).

This component of total cost was computed by initially obtaining the value of livestock other than bullocks (OTHSBRP = LVSKBRP - BLKSBRP) and the expenditures on them (EXPOTHS = EXPLVSK - EXPBLKS). Costs of animal husbandry operations, defined to include an opportunity cost and a depreciation cost, was then computed as COSTOTHS = (OTHSBRP * MINT + (OTHSBRP * 0.20) + EXPOTHS.

(e) The costs of storage, marketing, transport and other miscellaneous expenses (KMKT + KOTHER + RMKT + ROTHER) in the Kharif and Rabi seasons.

For storage, we only considered operational costs. The capital cost associated with investing in a godown or cattle shed could not be measured since the value of these assets is not available separately from the value of assets relating to non-crop activities like forestry, fishery, etc.

(f) The costs due to expenses on land revenue, betterment levy, agricultural income tax, etc. (EXPLAND).

(g) Operating expenses on vegetables, fruits and plantation crops paid out as expenses on seed, labor, fertilizer, etc. (EXPVEG).

In determining our final estimate of total cost, we adjusted the opportunity cost of capital invested in farm and irrigation equipment for the possibility of earning income by hiring the equipment out. Thus, the final

adjusted total cost of production (TOTCOST) was computed as:

(19) TOTCOST = KSEED + KFERT + KPEST + RSEED
+ RMANU + RFERT + RPEST + COSTFMEQ + COSTOTHS
+ COSTIRAS + KMKT + RMKT + KOTHER + ROTHER
+ EXPLAND + EXPVEG + COSTLAND
+ COSTLAB + COSTBLKS - INCASSTS,

where

INCASSTS = income from hiring out farm assets such as irrigation facilities, tractors, implements, carts, etc.

The shares in total cost were computed using the ratio method of estimation. We took household weighted sums of COSTLAND, COSTLAB, COSTBLKS, COSTFMEQ, COSTIRAS and COSTFERT for each region and expenditure class and divided these by the corresponding weighted sums of TOTCOST to obtain the shares of land, labor, bullocks, farm equipment, irrigation and fertilizer in the total cost of production for a particular region and expenditure class. These estimates are reported in Tables 1 to 6 in the next section.

B. On Computing Total Income and Income Shares

We define total income as the sum of (a) income from agricultural land (INCLAND); (b) income from agricultural labor (INCFAM); (c) income from bullocks (INCBLKS); (d) income from fixed agricultural assets (FIXINC) used in crop and livestock production; (e) income from non-agricultural wages (NAGRWAG); (f) income from salaries (SALARY); (g) income from self-employment (SFEMP), and (h) income from other sources such as imputed incomes from FMASBRP, interest and dividends, rents from land and house property, pensions and regular contributions. More particularly,

(20) INCOME = INCLAND + INCFAM + INCBLKS + FIXINC + NAGRWAG + SALARY
+ SFEMP + INCFMAS + EXOINC.

Estimates of NAGRWAG, SALARY, SFEMP and EXOINC are directly available from the data set.

To obtain income shares, we again computed the household weighted sums of INCLAND, INCFAM, INCBLKS, FIXINC, NAGRWAG, SALARY and SFEMP for each region and expenditure class and subsequently divided these by the corresponding weighted sums of INCOME. These shares are reported in Tables 12 to 17 in the next section.

C. On Computing Factor Supply Shares

To obtain the shares of land, labor, bullocks, farm equipment and irrigation, as supplied by each expenditure class for a given region, we took the weighted sums of TOTLAND, TOTLAB, BLKSBRP, FMEQBRP and IRASBRP for each class in the region and divided these by the corresponding weighted aggregates for the region. To determine the same shares in total supply for the economy as a whole, we took the weighted sums for each income class and each region and divided these by the total weighted aggregate supply of the factor. These shares are listed in Tables 7 to 11 of the following section.

III. Conclusions

Tables 1 to 6 list the shares of factors in the total cost of agricultural production; first, for each region, then for each income class, and finally for each income class in each region. All-India figures are in Tables 1 and 2, while the regional figures are in Tables 3 to 6.

From Table 1, we see that land accounts for some 26-33% of total cost in all regions. Labor ranges from 26 to 42% while bullocks account for 7 to 12% of costs. Coastal Rice has the lowest cost shares for land and bullocks, but the highest for labor. The Semi-Arid Tropics, on the other hand, has the highest land cost share and the lowest labor cost share. The highest bullock cost share is in the Eastern Rice Region. In the other

inputs to agricultural production, fertilizer accounts for 2 to 4% of total cost, farm equipment for 1 to 4% of total cost, and irrigation for 2 to 10% of total cost. The share of all other factors, computed as a residual, account for 11 to 13% of total cost. All-India cost share figures are given at the bottom of Table 1 for purposes of comparison. In All-India, labor accounts for the highest share in total cost (32.58%) followed closely by land (30.88%).

Table 2 gives factor shares in total cost for each expenditure class. Land costs are about 28-37% of the total. Those in the poorer expenditure classes spend proportionately more of their total costs on land. Labor costs, on the other hand, vary from 23 to 36% with the poorer classes proportionately lower cost shares than their higher income counterparts. These results are not unexpected given the differences in the factor scarcities faced by each expenditure group. As will be shown later, the lower expenditure groups basically have a relative abundance of labor and a scarcity of land, while higher expenditure groups have opposite endowment shares. In Table 2 we also note that except perhaps for irrigation, the shares of fertilizer, farm equipment and aggregate other costs do not vary dramatically across expenditure groups.

Looking now at factor shares in total cost by expenditure class for each agroclimatic region, we again note from Tables 3 to 6 that, in general, the shares of land in total cost decreases from lower to higher expenditure groups while the shares of labor increases. The magnitudes of these shares, however, differ markedly across regions. The first expenditure quartile in the Eastern Rice region, for instance, has some 38.25% of total cost due to labor, while the same quartile in the Northern Wheat region spends only 15.81% of its total cost on labor. Similar differences in magnitudes of

factor shares in total cost can also be noted for the other productive factors. This lends support to our earlier contention that agricultural production techniques vary across agroclimatic regions. Even across farms with different endowments (poor versus rich classes) in each region production techniques are likely to be different. In Table 6, for instance, we note that for the fourth expenditure class, labor appears to be the most important productive factor in terms of cost (33.76%), followed by land (27.16%), the "others" aggregate (12.73%), bullocks (10.56%), irrigation (7.59%), farm equipment (4.45%) and fertilizer (3.75%), in that order. In the lowest expenditure quartile in the same region however, the "others" aggregate has the highest share in total cost (25.46%), followed by bullocks (20.16%), land (20.56%), labor (15.81%), fertilizer (8.90%), farm equipment (6.15%) and irrigation (2.51%). Differences in endowments explain most of these differences in cost shares. To these, we now turn.

Tables 7 to 11 list the shares in the ownership of the factors of production - land, labor, bullocks, farm equipment and irrigation - by region and expenditure class. The two parts, A and B, of each of these tables give (a) the share in the overall factor supply of each region's expenditure class and (b) the share of each expenditure class in the total factor supply of a given region, respectively. From Table 7A, for instance, we note that the fourth expenditure group in the Semi-Arid Tropics (SAT) owns 25.62% of the gross area in India or, from Table 7B, 43.6% of gross cropped area in the SAT. Table 7A shows that the SAT is our largest agroclimatic region in terms of gross owned area, accounting for 58.76% of the total. This is followed by the Eastern Rice region (22.91%), the Northern Wheat region (13.56%) and finally by the Coastal Rice region (4.78%). The distribution of land at the national level is fairly skewed, the poorest quartile of the rural population

owns only 11.37% of the total gross cropped area while the richest quartile owns close to 47%.

The distribution of land by expenditure group within each of the first three regions - SAT, ER, and CR - closely parallels the All-India distribution; the lowest groups own between 7 and 14% of total land supply and the highest groups, 32 to 52%. In the NW region, where there are only a few households that fall into the first two expenditure classes (defined on the basis of national quartiles), we observe that these two groups account for less than 2% of the total land supply in the region. Land is concentrated in the fourth group which owns over 84% of the gross area.

Table 8 shows the distribution of labor supply. The SAT contributes 43.68% of total labor supply; 33.69% is contributed by ER, 11.41% by NW and 11.22% by CR. On the national level, all quartiles contribute approximately 25% each to the total labor supply. This is not unusual given our definition of expenditure quartiles. On the regional level we note that the lowest two quartiles in all regions contribute more to the supply of labor relative to their share in the land supply, i.e., they own more labor and less land than their higher expenditure group counterparts. These differences in endowments explain the differences in the cost structure of production for the lower versus the higher expenditure groups earlier noted.

The distribution of bullocks, shown in Table 9, follows a pattern similar to that of land. The SAT accounts for some 50% of the total supply of bullocks, ER for 25.6%, NW for 19.4% and CR for some 5%. The All-India bullock supply shares by expenditure class range from 10.6% owned by the bottom quartile to 47.8% by the top quartile. In each region, Table 9B shows the distribution of bullocks is again fairly skewed, the higher expenditure groups having more bullocks than the lower groups.

Tables 10 and 11 give the distributions of farm equipment and irrigation assets, respectively. Again, the richer groups appear to have larger shares in the ownership of these assets, both nationally and within each region. The SAT also has the largest shares of these assets, followed by the NW region. ER has the third largest share in the ownership of farm equipment while the CR has the third largest share of private irrigation assets. Relative to their shares in total land, the NW and CR regions have larger shares in total farm equipment. Together with the SAT, they likewise have larger shares in private irrigation assets.

Table 12 gives the distribution of income by source of income in each agroclimatic region. In rural India, income from land has the largest share in total income (35.21%). Agricultural labor also figures prominently as an income source (32.5%). Labor contributes less than land in each of the regions, except for the CR region where its share is slightly more (34% versus 29%). Income from bullocks accounts for 1-3% of total income. Income from farm assets in crop livestock production contributes only 2.2% to total income in the ER region but a high 10.5% in the SAT region. Overall, farm assets income contributes some 6% to total income. Income from agricultural sources, i.e., from land, labor, bullocks and farm assets used in crop and livestock production, jointly account for over 76% of total income in rural India. In both the SAT and NW regions, these sources account for 79-81% of total income, while in the ER and CR regions, they contribute a lower 69-72%. Among the non-agricultural sources of income, self-employment income appears to be the most important income source, accounting for about 10% of total income. Salaries contribute 6.5% while non-agricultural wages and other sources contribute 3.38% and 3.72%, respectively.

Table 13 reports the shares in total income by source of income in each expenditure class. Land is the main income source of the highest class. The share of income from land of the fourth expenditure group is a high 47.3%, over four times that for the lowest income group of only 11.32%. This arises from the skewed distribution of land earlier noted. Labor, on the other hand, contributes some 52.8% of total income in the poorer expenditure group and only 22.2% of income in the richest group. Labor is the main source of income of poorer rural households. Even non-agricultural wage labor is important for the poor. Wages from this source account for some 6.7% of their total income, and only 1.5% for the richest group. The poor, however, appear to be disfavored in terms of regular-salaried employment. Income from salaries contributes only 2.3% to total income of the two poorer quartiles but a high 7-9% of the two richer quartiles. In all expenditure groups incomes from bullocks, farm equipment and other sources contribute about the same percentage to total income, i.e., 2-3%, 5-7% and 3-4%, respectively. Finally, self-employment appears to be important to the rural poor. The share of income from self-employment ranges from 13% for the first quartile to 8.7% for the fourth expenditure quartile.

Tables 14 to 17 give the distribution of total income by source of income for each expenditure group in each of the four regions, respectively. The shares reported here are basically similar to that already noted in the All-India case. The share of income from land in total income increases as one goes from lower to higher expenditure groups in each of the individual regions. The same is true for income from salaries. However, for both income from agricultural labor and self-employment, the reverse holds, i.e., the shares of income from these sources declines as one moves from the lower to higher groups. With few exceptions, all other remaining sources of income

contribute a fairly constant share to total income in each group within a particular region.

All the shares hitherto referred to (Tables 1 to 17) are from the 1970-71 NCAER survey. Unfortunately, we have been unable to find shares of a similar nature with which our figures can be compared. Thus, our estimates should really be treated as benchmarks with which future comparisons can be made. Finally, from a regional standpoint, it would be better if regional rather than national income quartiles are used to characterize all within region distributions. This is not difficult given our outlined procedures. This would indeed give a better picture of the asset distribution and the shares of factor in total cost within each region.

Appendix I

Mapping of FMS and ICRISAT Districts onto the NCAER Districts a/

NCAER Districts	District Number	FMS & ICRISAT Districts
Anantapur	1	Mahbubnagar
Shunoga	2	"
Mandya	3	"
Chittoor	4	Cuddapah
Nellore	5	"
Chitradurga	6	"
Kolar	7	"
Hassan	8	"
Turuchurapalli	9	"
Madurai	10	"
Kutch	11	Pali
Raykot	12	"
Junagadh	13	"
Bharnagar	14	"
Surendranagar	15	Akola
Raichur	16	"
Dhar	17	"
West Nunar	18	"
Hoshangabad	19	"
Chhatarpur	20	"
Rewa	21	"
Amravati	22	"
Nagpur	23	"
Chandrapur	24	"
Yeotmal	25	"
Aurangabad	26	"
Ganganagar	27	"
Jhalawar	28	"
Ahmedabad	29	Bulsar &
Baroda	30	Surat
Surat	31	"
Belgaum	32	Sholapur
Poona	33	"
Balaghat	34	Raipur
Bilaspur	35	"
Raipur	36	"
Bhandara	37	"
Kolhapur	38	Cormbatore & Salem

NCAER Districts	District Number	FMS & ICRISAT Districts
Alwar	39	Pali
Bharatpur	40	"
Sawai-Madhopur	41	"
Jaipur	42	"
Nagaur	43	"
Pali	44	"
Udaipur	45	"
Goalpara	46	Nowgong
Darrang	47	"
Sibsagar	48	"
Cachar	49	"
Shahabad	50	Deoria
Santal Parganas	51	"
Faizabad	52	"
Pratapgarh	53	"
Allahabad	54	"
Varanasi	55	"
Ballia	56	"
Purnea	57	Hooghly
West Dinajpur	58	"
Burduvan	59	"
Hazaribagh	60	Sambalpur
Ranchi	61	"
Sambalpur	62	"
Balasore	63	Cuttack
Cuttack	64	"
Ganjam	65	"
24 Parganas	66	24 Parganas
Midnapur	67	" "
Srikakulam	68	Cuddapah
West Godavari	69	Thanjavur
Krishna	70	"
North Kanara	71	Quilon &
Trichur	72	Alleppey
Quilon	73	"
Kozikhode	74	"
Palghat	75	"
Alleppey	76	"
Chingleput	77	Thanjavur
South Arcot	78	"
Thanjavur	79	"
Kanyakumari	80	"
Hissar	81	Ferozepur &
Rohtak	82	Amritsar
Gurgaon	83	"

NCAER Districts	District Number	FMS & ICRISAT Districts
Ferozepur	84	Ferozepur &
Kapurthala	85	Amritsar
Jind	86	"
Amritsar	87	"
Jullundur	88	"
Ludhiana	89	"
Mandi	90	Ferozepur &
Mahasu	91	Amritsar (66%)
Jammu	92	"
Anantnag	93	"
Bulandshahr	94	Muzaffarnagar &
Ahgarh	95	Meerut
Meerut	96	"
Budaun	97	"
Hardoi	98	"
Gonda	99	"

a/ The districts that comprise each agroclimatic region are defined below:

SAT - districts numbered 1-45.
ER - districts numbered 46-67.
CR - districts numbered 68-80.
NW - districts numbered 81-99.

Note: These Tables (1-17) are from the 1970-71 NCAER and refer only to Rural India.

Table 1

Percentage Shares in Total Cost by Factor of Production and Agroclimatic Region, 1970-71

Factor / Region	Land	Labor	Bullocks	Fertilizer	Farm Equipment	Irrigation	Others	Total
Semi-Arid Tropics	33.25	25.77	10.89	3.67	3.25	10.04	13.12	100.00
Eastern Rice	31.30	41.16	11.98	1.83	1.32	1.72	10.69	100.00
Coastal Rice	25.90	42.20	7.00	4.44	2.01	4.98	13.48	100.00
Northern Wheat	27.57	33.07	11.09	3.76	4.18	7.09	13.24	100.00
All-India	30.88	32.58	10.86	3.31	2.87	6.92	12.59	100.00

Table 2

Percentage Shares in Total Cost by Factor of Production and Expenditure Class, 1970-71

Factor / Expenditure Class	Land	Labor	Bullocks	Fertilizer	Farm Equipment	Irrigation	Others	Total
First Quartile	37.12	23.37	11.04	2.93	2.68	10.80	12.06	100.00
Second Quartile	34.08	26.47	12.31	3.10	3.75	6.59	13.70	100.00
Third Quartile	32.60	33.15	11.34	2.91	2.24	4.99	12.76	100.00
Fourth Quartile	28.16	35.52	10.22	3.61	2.96	7.21	12.31	100.00
All-India	30.88	32.58	10.86	3.31	2.87	6.92	12.59	100.00

Table 3

Percentage Shares in Total Cost by Factor of Production and Expenditure Class in the Semi-Arid Tropical Region, 1970-71

Factor / Expenditure Class	Land	Labor	Bullocks	Fertilizer	Farm Equipment	Irrigation	Others	Total
First Quartile	38.78	17.32	9.97	3.25	3.10	15.20	12.38	100.00
Second Quartile	35.80	19.95	12.02	3.44	5.28	8.54	14.96	100.00
Third Quartile	34.76	25.23	11.73	3.17	3.23	8.48	13.39	100.00
Fourth Quartile	29.96	30.70	10.35	4.11	2.53	9.81	12.54	100.00

Table 4

Percentage Shares in Total Cost by Factor of Production and Expenditure Class in the Eastern Rice Region, 1970-71

Factor / Expenditure Class	Land	Labor	Bullocks	Fertilizer	Farm Equipment	Irrigation	Others	Total
First Quartile	34.54	38.25	13.23	1.27	1.53	0.68	10.49	100.00
Second Quartile	32.40	36.30	14.04	2.03	1.45	2.39	11.39	100.00
Third Quartile	31.71	41.10	11.24	2.16	1.28	1.70	10.81	100.00
Fourth Quartile	29.28	44.48	11.39	1.54	1.23	1.70	10.27	100.00

Table 5

Percentage Shares in Total Cost by Factor of Production and Expenditure Class in the Coastal Rice Region, 1970-71

Factor / Expenditure Class	Land	Labor	Bullocks	Fertilizer	Farm Equipment	Irrigation	Others	Total
First Quartile	33.11	28.65	11.02	5.71	2.04	7.46	12.00	100.00
Second Quartile	29.86	35.54	7.68	4.53	1.91	8.50	11.98	100.00
Third Quartile	30.76	37.71	7.28	3.80	1.39	4.20	14.85	100.00
Fourth Quartile	21.95	47.26	6.32	4.59	2.31	4.18	13.39	100.00

Table 6

Percentage Shares in Total Cost by Factor of Production and Expenditure Class in the Northern Wheat Region, 1970-71

Factor / Expenditure Class	Land	Labor	Bullocks	Fertilizer	Farm Equipment	Irrigation	Others	Total
First Quartile	20.56	15.81	20.61	8.90	6.15	2.51	25.46	100.00
Second Quartile	29.97	19.70	16.01	2.77	3.60	6.46	21.50	100.00
Third Quartile	29.96	30.96	13.29	3.65	2.61	4.49	15.03	100.00
Fourth Quartile	27.16	33.76	10.56	3.75	4.45	7.59	12.73	100.00

Table 7A

Percentage Shares in the Supply of Land
by Region and Expenditure Class, 1970-71

Region / Expenditure Class	SAT	ER	CR	NW	All Regions
First Quartile	8.31	2.66	0.34	0.06	11.37
Second Quartile	11.24	4.17	0.67	0.17	16.25
Third Quartile	13.59	8.76	1.31	1.87	25.53
Fourth Quartile	25.62	7.32	2.46	11.45	46.85
All Expenditure Classes	58.76	22.91	4.78	13.56	100.00

Table 7B

Percentage Shares in the Regional Supply of
Land by Expenditure Class, 1970-71

Region / Expenditure Class	SAT	ER	CR	NW	
First Quartile	14.14	11.62	7.02	0.47	
Second Quartile	19.14	18.21	13.98	1.27	
Third Quartile	23.13	38.22	27.45	13.81	
Fourth Quartile	43.60	31.94	51.55	84.46	
Total	100.00	100.00	100.00	100.00	

Table 8A

Percentage Shares in the Supply of Labor
by Region and Expenditure Class, 1970-71

Region / Expenditure Class	SAT	ER	CR	NW	All Regions
First Quartile	12.39	9.54	2.04	0.29	24.26
Second Quartile	12.44	9.85	3.54	1.18	27.02
Third Quartile	10.76	8.09	2.70	3.58	25.13
Fourth Quartile	8.01	6.21	2.93	6.37	23.59
All Expenditure Classes	43.68	33.69	11.22	11.41	100.00

Table 8B

Percentage Shares in the Regional Supply of
Labor by Expenditure Class, 1970-71

Region / Expenditure Class	SAT	ER	CR	NW	
First Quartile	28.36	28.32	18.21	2.53	
Second Quartile	28.49	29.25	31.57	10.35	
Third Quartile	24.64	24.02	24.07	31.35	
Fourth Quartile	18.51	18.42	26.15	55.78	
Total	100.00	100.00	100.00	100.00	

Table 9A

Percentage Shares in the Ownership
Working Bullocks by Region and Expenditure Class, 1970-71

Region / Expenditure Class	SAT	ER	CR	NW	All Regions
First Quartile	6.83	3.06	0.38	0.29	10.56
Second Quartile	10.02	5.20	0.80	0.42	16.43
Third Quartile	11.63	9.18	1.26	0.41	25.25
Fourth Quartile	22.00	8.13	2.14	3.18	47.77
All Expenditure Classes	50.47	25.57	4.58	19.37	100.00

Table 9B

Percentage Shares in the Regional Ownership
Working Bullocks by Expenditure Class, 1970-71

Region / Expenditure Class	SAT	ER	CR	NW	
First Quartile	13.52	11.97	8.35	1.48	
Second Quartile	19.86	20.32	17.35	2.14	
Third Quartile	23.04	35.90	27.53	16.40	
Fourth Quartile	43.58	31.81	46.77	79.98	
Total	100.00	100.00	100.00	100.00	

Table 10A

Percentage Shares in the Ownership of
Farm Equipment by Region and Expenditures Class, 1970-71

Region / Expenditure Class	SAT	ER	CR	NW	All Regions
First Quartile	6.75	1.21	0.27	0.08	8.31
Second Quartile	15.10	1.92	0.97	0.36	18.35
Third Quartile	12.21	4.46	0.99	2.56	20.21
Fourth Quartile	19.39	4.05	4.05	25.64	53.13
All Expenditure Classes	53.44	11.64	6.28	28.64	100.00

Table 10B

Region / Expenditure Class	SAT	ER	CR	NW	
First Quartile	12.63	10.38	4.36	0.29	
Second Quartile	28.26	16.53	15.43	1.24	
Third Quartile	22.84	38.29	15.76	8.94	
Fourth Quartile	36.28	34.81	64.45	89.52	
Total	100.00	100.00	100.00	100.00	

Table 11A

Percentage Shares in the Ownership of
Irrigation Assets by Region and Expenditure Class, 1970-71

Region / Expenditure Class	SAT	ER	CR	NW	All Regions
First Quartile	15.50	0.00	0.39	0.00	15.89
Second Quartile	11.95	0.68	1.78	0.25	14.65
Third Quartile	14.10	1.57	1.27	0.32	17.27
Fourth Quartile	33.06	1.43	3.24	14.47	52.19
All Expenditure Classes	74.61	3.68	6.68	15.03	100.00

Table 11B

Percentage Shares in the Regional Ownership of
Irrigation Assets by Expenditure Class, 1970-71

Region / Expenditure Class	SAT	ER	CR	NW	
First Quartile	20.78	0.00	5.84	0.00	
Second Quartile	16.02	18.53	26.61	1.63	
Third Quartile	18.90	42.69	19.08	2.12	
Fourth Quartile	44.31	38.77	48.47	96.25	
Total	100.00	100.00	100.00	100.00	

Table 12

Percentage Shares in Total Income by
Source of Income and Agroclimatic Region, 1970-71

Region \ Income Source	Land	Agricultural Labor	Bullocks	Other Farm Assets in Crop Prod.	Non-Agricultural Wages	Salaries	Self-Employment	Other Sources	Total
Semi-Arid Tropics	34.56	32.20	3.31	10.46	2.48	6.48	7.59	2.91	100.00
Eastern Rice	35.60	31.72	2.26	2.20	4.52	6.58	12.68	4.43	100.00
Coastal Rice	29.14	34.04	1.28	4.33	3.98	12.02	11.47	3.75	100.00
Northern Wheat	38.73	33.31	2.08	5.27	2.88	3.79	9.93	4.02	100.00
All-India	35.21	32.49	2.49	6.05	3.38	6.53	10.13	3.72	100.00

Table 13

Percentage Shares in Total Income by
Source of Income and Expenditure Class, 1970-71

Expenditure Class \ Income Source	Land	Agricultural Labor	Bullocks	Other Farm Assets in Crop Prod.	Non-Agricultural Wages	Salaries	Self-Employment	Other Sources	Total
First Quartile	11.32	52.83	2.56	7.37	6.72	2.54	13.03	3.63	100.00
Second Quartile	24.22	42.78	2.54	5.67	6.52	2.93	11.90	3.45	100.00
Third Quartile	32.98	33.83	2.58	4.98	2.82	9.34	10.04	3.43	100.00
Fourth Quartile	47.26	22.15	2.41	6.46	1.52	7.49	8.69	4.02	100.00
All-India	35.21	32.49	2.49	6.05	3.38	6.53	10.13	3.72	100.00

Table 14

Percentage Shares in Total Income by Source of Income and Expenditure Class in the Semi-Arid Tropical Region, 1970-71

Expenditure Class \ Income Source	Land	Agricultural Labor	Bullocks	Other Farm Assets in Crop Prod.	Non-Agricultural Wages	Salaries	Self-Employment	Other Sources
First Quartile	7.34	54.18	3.18	13.33	4.50	3.37	9.37	4.72
Second Quartile	27.88	44.41	3.01	9.16	4.27	2.55	6.02	2.70
Third Quartile	30.59	30.68	3.10	8.69	2.41	12.35	9.53	2.65
Fourth Quartile	52.72	16.50	3.69	11.23	0.59	6.30	6.53	2.44

Table 15

Percentage Shares in Total Income by Source of Income and Expenditure Class in the Eastern Rice Region, 1970-71

Expenditure Class \ Income Source	Land	Agricultural Labor	Bullocks	Other Farm Assets in Crop Prod.	Non-Agricultural Wages	Salaries	Self-Employment	Other Sources
First Quartile	16.04	49.94	2.01	1.61	8.71	1.49	17.15	3.02
Second Quartile	26.17	39.22	2.81	2.65	7.89	3.13	13.76	4.37
Third Quartile	42.31	30.90	2.53	2.51	2.74	6.01	7.84	5.17
Fourth Quartile	44.61	19.44	1.81	1.92	2.05	11.55	14.15	4.48

Table 16

Percentage Shares in Total Income by Source of Income and Expenditure Class in the Coastal Rice Region, 1970-71

Expenditure Class \ Income Source	Land	Agricultural Labor	Bullocks	Other Farm Assets in Crop Prod.	Non-Agricultural Wages	Salaries	Self-Employment	Other Sources
First Quartile	11.68	63.53	1.61	3.83	4.47	3.54	11.52	-0.18
Second Quartile	16.34	51.89	1.01	4.19	6.69	3.92	14.28	1.68
Third Quartile	25.67	30.74	1.57	4.26	2.08	19.67	12.99	3.01
Fourth Quartile	41.21	20.51	1.18	4.55	3.60	13.63	9.24	6.06

Table 17

Percentage Shares in Total Income by Source of Income and Expenditure Class in the Northern Wheat Region, 1970-71

Expenditure Class \ Income Source	Land	Agricultural Labor	Bullocks	Other Farm Assets in Crop Prod.	Non-Agricultural Wages	Salaries	Self-Employment	Other Sources
First Quartile	6.12	36.18	3.18	3.98	23.69	0.61	18.94	7.31
Second Quartile	3.53	33.71	0.75	1.74	13.94	2.41	37.09	6.84
Third Quartile	22.01	48.79	2.24	3.14	4.30	3.89	14.15	1.49
Fourth Quartile	46.33	29.15	2.11	6.11	1.31	3.92	6.65	4.41

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