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**THE DISTRIBUTION OF BENEFITS FROM
INCREASED RICE PRODUCTION IN
THANJAVUR DISTRICT, SOUTH INDIA**

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INTRODUCTION

Between 1965-66 and 1970-71 India moved from a heavy deficit in food production to a situation approaching its goal of food self-sufficiency. Although the increases in food production have been tempered more recently due to poor weather conditions, the introduction of high-yielding varieties was a major factor in producing supplies of foodgrains large enough to prevent complete disaster in more recent years. As in other Asian countries, the introduction of high-yielding varieties of wheat, rice, maize and other crops was accompanied by increased application of fertilizer and other complementary inputs. Moving from a drought situation in 1965-66, when India's total foodgrain production was 72 million metric tons, the nation's harvests reached 108 million metric tons in 1970-71.

This dramatic increase in production, popularly known as the "green revolution," offers some benefits for the whole population in the sense that there is more food available for their consumption. However, uneven distribution of the other benefits of technical change has caused social and political problems which are proving to be more difficult to solve than the development and adoption of the new technology.

In terms of total area, rice is the most important foodgrains crop in India. Out of a total foodgrain area of 307.1 million acres in 1971-72, 92.9 million acres were planted to paddy. In 1970-71 there were 13.8 million acres of paddy planted to high-yielding varieties (15 per cent of the total paddy area).

The purpose of this paper is to report the income effects in an area which adopted the new technology of high-yielding varieties, fertilizers and pesticides.¹ By analysing the distributional effects at the village level, changes in income from paddy production for different groups of farm operators and

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1. This paper is a summary of the results from research undertaken to determine both the income distribution effects and employment effects from increased rice production. For a more detailed discussion of the income and employment effects, see Clyde Geoffrey Swenson: *The Effect of Increases in Rice Production on Employment and Income Distribution in Thanjavur District, South India*, unpublished Ph. D. dissertation, Michigan State University, 1973. The data phase for this research was supported by the United States Agency for International Development and in part by the Midwest Universities Consortium for International Activities.

landless labourers are presented.² By considering all sources of income, the income effects from increases in rice production can be put in perspective to income from all other sources.

To measure the income effects at the local level, two villages were selected in Thanjavur district, Tamil Nadu State, where a locally developed higher yielding variety (ADT-27) was first introduced in 1965.³ Detailed information relating to all income sources was collected for the households of 145 out of the 156 farm operators and of 67 landless labourers, a 27 per cent sample of landless labourer households for the two villages. Two major surveys (one for farm operators and one for labourers) were administered in 1971 to determine the change in income which took place between the crop years of 1965-66 and 1970-71.⁴

As this paper attempts to demonstrate, there were two very important findings from this research. First, the distribution of income did not change significantly between the two periods. This means that the increased income generated from the introduction of the high-yielding variety along with increased use of other inputs did not go to just one group within the agricultural population as many had feared it would. Secondly, the distribution of income was very highly skewed. While most other studies of the distribution of income for agricultural areas in India indicate Gini ratios between 0.3 and 0.5,⁵ the measurement of income in this study generated a value for the Gini ratio of about 0.7. This indicates a very highly skewed distribution of income within a local area and may bring into question the relevance of income studies using broader samples.

2. Since a large component of the agricultural population in rice growing areas is often composed of landless labourers, the changes in income to this group form an important part of the analysis. According to the 1971 Census of India, 59 per cent of the agricultural workers in Tamil Nadu State were landless labourers.

3. The two villages selected (Maradanallur and Karuppur) were in the area known as the Old Delta in Thanjavur district. Maradanallur and Karuppur were selected according to the following criteria: (1) High percentage of area in double cropping pattern. Since most of the high-yielding varieties have been adopted on the first crop of double cropping pattern, this would imply that the farmers would have a greater possibility of using one of the higher yielding varieties. (2) Yield performance. Since the purpose of the study was to measure the effects of change, it was crucial to select areas where increases in yield had been experienced. In addition, two other criteria were used to select the two villages for purposes of other analysis not covered in this paper. They were (1) predominantly Hindu population and (2) nearness to large towns. These two criteria made it possible to measure the effect of caste and the effect of proximity to large town on non-agricultural income.

4. The crop year 1965-66 was chosen as the base because 87 per cent of the farmer operators adopted ADT-27 after that year.

5. For example, Katar Singh estimated Gini ratios of 0.514 and 0.428 for farmers in Aligarh district, Uttar Pradesh for 1963-64 and 1968-69 respectively, see "The Impact of New Agricultural Technology on Farm Income Distribution in the Aligarh District of Uttar Pradesh," *Indian Journal of Agricultural Economics*, Vol. XXVIII, No. 3, April-June, 1973, pp. 1-11; K. R. Ranadive estimated Gini ratios between 0.378 and 0.430 for the rural areas of India for the years 1953-54 to 1959-60, see "Patterns of Income Distribution in India, 1953-54 to 1959-60," *Bulletin of the Oxford University, Institute of Economics and Statistics*, Vol. 30, No. 3, August, 1968, pp. 231-261; and P. D. Ojha and V. V. Bhatt had estimates of 0.310 and 0.306 for personal income and disposable income, respectively for the period 1953-54 to 1956-57, see "Patterns of Income Distribution in an Underdeveloped Economy: A Case Study of India," *The American Economic Review*, Vol. LIV, No. 4, September, 1964, pp. 711-720.

CHANGE IN TOTAL VALUE OF PADDY PRODUCTION

The total value of paddy production is, obviously, dependent on two factors: total quantity produced and the price per unit. Between 1965-66 and 1970-71 the total nominal value of paddy production increased by 54.2 per cent in the two villages. Of this total, 21.7 per cent was due to production increases while 32.5 per cent was due to increases in price (Table I). Paddy production increased by approximately 30 per cent for the district after adjustment because of a less than average year in 1965-66 for the district as a whole.⁶

TABLE I—SOURCE OF CHANGE IN TOTAL VALUE OF PADDY PRODUCTION BETWEEN 1965-66 AND 1970-71 FOR SAMPLE FARM OPERATORS IN SURVEY VILLAGES, BY FARM SIZE (IN ACRES)

Source of change	Very small (0.2-5)	Small (2.5-5.0)	Medium (5.01-10)	Large (10.01-20)	Very large (20.01+)	All farms
No. of farms	(70)	(49)	(11)	(6)	(9)	(145)
	<i>per cent</i>					
Changes in production	+ 0.7	+21.7	+32.3	+29.7	+22.3	+21.7
Price changes	+17.4	+17.9	+17.9	+18.0	+47.6	+32.5
Total changes	+18.1	+39.6	+50.2	+47.7	+69.9	+54.2

Because larger farms usually had a greater area in paddy, the effect of changes in production correlated to some degree with farm size even though changes in yields were not dramatically different. The very small farmers showed less than one per cent increase in the total value of their paddy production, because higher yields were offset by a 14 per cent reduction in gross paddy area.⁷ Other farm size-groups had an average increase in gross paddy area.

But the most striking varying effect on total value of production was from changes in price by very large farmers. Excluding this group, higher prices received for paddy accounted for about 18 per cent of the increase in value of production in the five-year period. Meanwhile, the very large farmers experienced 47.6 per cent increase in value of production because of the greater increases in the price they received for paddy. In 1970-71, the very large farmers appeared to have a marketing position significantly better than the earlier period and better than that of their smaller neighbours. Higher prices resulted from higher volume of sales as well as being able to store a larger proportion of the harvest for later sale.⁸

6. This figure was calculated from various official published statistics.

7. This reduction was due mostly to one farmer who had 14 acres of rented land in 1965-66 but did not operate this land in 1970-71. Excluding this observation the net area decreased by only 5 per cent. This was due to a greater decrease in rented land than the minor increase in owned land.

8. In so far as the author could determine, this storage was not the result of any additional capital investment. Instead, the paddy was stored in their houses and, in some cases, in empty houses previously occupied by relatives. Thus, the private opportunity cost of this storage was very low if not nil.

The distribution of paddy income with the assumption of equal paddy price for all farm operators compared to the distribution of paddy income using actual prices received is given in Table II. Looking at the Gini ratios, it is evident that the change in the distribution of paddy income would have been in the direction of greater equality with equal paddy prices for all farm operators in 1970-71 instead of the virtually unchanged distribution of incomes with recorded prices for paddy. Whereas the Gini ratio increased by .002 with recorded paddy prices for each operator, the Gini ratio decreased by .018 when equal prices are assumed for all farm operators.

TABLE II—PATTERN OF DISTRIBUTION OF TOTAL VALUE INCOME FROM PADDY PRODUCTION USING RECORDED PADDY PRICE FOR 1965-66 AND 1970-71 AND EQUAL PADDY PRICE FOR 1970-71 FOR SAMPLE FARM OPERATORS IN SURVEY VILLAGES: SHARES OF ORDINAL GROUPS OF FARM OPERATOR HOUSEHOLDS

Households	1965-66		1970-71	
	Recorded paddy price		Recorded paddy price	Equal* paddy price
	<i>per cent</i>			
Top 5 per cent	55.5	58.0	54.2	
Top 10 per cent	73.0	74.5	71.3	
Top 20 per cent	85.7	86.1	84.0	
Second 20 per cent	8.5	8.3	9.5	
Third 20 per cent	4.4	3.7	4.2	
Fourth 20 per cent	1.9	1.8	2.1	
Bottom 20 per cent	0.5	0.1	0.2	
Gini ratio809	.811	.791	

* A paddy price of Rs. 14.35 per *kalam* or Rs. 22.89 per hundred weight is assumed for all farmers in 1970-71.

As would be expected, the assumption of an equal paddy price in 1970-71 results in a decrease in the share of paddy income being received by the top ordinal groups with all other ordinal groups increasing their share of total value income from paddy. This result would have been consistent with the implication of the tenure arrangements in the area where the tenants pay a fixed quantity of paddy for the use of the land. Because the terms of the tenure arrangements (quantity paid) did not change over the period of analysis, one could expect a larger relative increases in paddy income for those farm operators renting in land which were mostly on the lower end of the ordinal ranking of incomes.⁹ However, this relative gain by the lower income earners was more than matched by the relative price gains of the very large farm operators.

9. This would have to assume equal relative increases in productivity as well as input costs. In a general way, these conditions were met in the area studied.

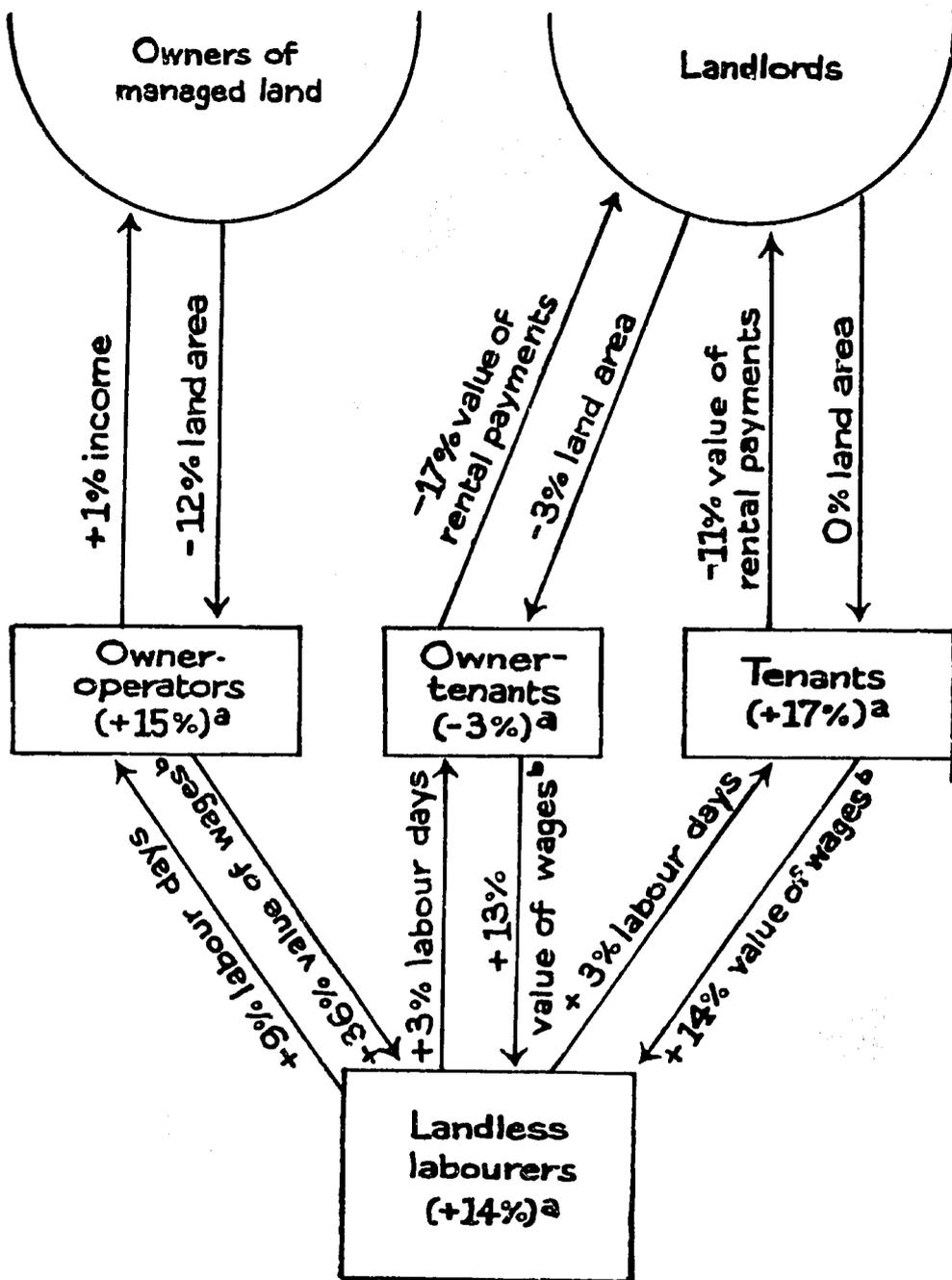


Figure 1—Relative Changes between 1965-66 and 1970-71 in the Flows of Land, Labour, and Real Income from Paddy Production between Economic Classes in Survey Villages

^a Figures in parentheses indicate relative changes in real income per household within each economic class.

^b Kind wages (paddy) are valued at opportunity cost for farm operators.

CHANGES IN INCOME DISTRIBUTION AMONG THE POPULATION

With the changes in income from paddy production came changes in the flows of land, labour and real income¹⁰ among economic groups as shown in Figure 1. There was a 3 per cent decrease in the area of land rented by owner-tenants, but no change in the area of land rented by tenants. While the quantity of paddy paid as rent per acre was the same in both periods, the total real value of that payment decreased by 17 per cent for owner-tenants and 11 per cent for tenants. Most of this decrease for owner-tenants and all of it for tenants was due to increases in paddy prices which were lower than the increase in the general level of prices. The price received for paddy increased by 14 and 18 per cent respectively for owner-tenants and tenants compared to a 30 per cent increase in the general level of prices.

The opposite resulted with the flows of land and income between the largest owner-operators and owners of managed land.¹¹ In spite of a 12 per cent decrease in the area of managed land operated by the largest owner-operators, the deflated value of the paddy payment given to the owners of managed land increased by 1 per cent. This was due to a 38 per cent increase in the price of paddy received by the largest farm operators who had managed land.

The changes in the flows of labour to the farm operators from the landless labourer group and flows of income in the form of wages from the farm operators to the landless labourers differed considerably among the different types of farm operators. The owner-tenants and the tenants employed 3 per cent more days of labour from the landless labourers in paddy production, but the increase in real wages paid by them was 13 per cent for owner-tenants and 14 per cent for tenants. Owner-operators utilized 9 per cent more days of labour from the landless labourers, with a 36 per cent increase in the real value of wages they paid. Real wages were higher because of the much greater increase in opportunity cost when the largest owner-operators who hired the largest proportion of landless labour employment, paid wages in kind (paddy).

10. Income in this paper is the total present value of production less all costs of production including both purchased and non-purchased inputs. The value of production (and costs where they were paid in kind) is determined by the price per unit which the farm operator received for the quantity of paddy he sold. Thus, the total production is valued at the opportunity cost of sales as opposed to other uses for the paddy such as consumption, gifts and payments in kind for other goods and services.

Real income in 1970-71 was computed by deflating the present value by a factor of 1.3. According to a consumption survey taken in the two villages during the course of this study, consumer prices increased by 29.8 per cent between 1965-66 and 1970-71. Since this result was very close to published indices of change in prices, a factor of 30 percent increase was accepted as being a close approximation of change in consumer prices in the villages surveyed for this study. The consumer price index for industrial labourers, Tiruchirapalli (the nearest town measured), showed a 28.0 per cent increase in prices. The rural price index for 8 rural centres in Tamil Nadu indicated a 32.6 per cent increase in prices. Both indices are given in Tamil Nadu—An Economic Appraisal, 1972 (Part II—Statistical Tables).

11. The term "managed land" refers to land managed for relatives who no longer lived in the village.

The changes in the flows of resources between economic groups were not extreme. The changes in incomes per household differed somewhat more among economic groups. In a relative sense all economic groups except the owner-tenants gained from the changes in paddy production. Tenants had the largest relative increase (17 per cent) in real income, followed by owner-operators (15 per cent) and landless labourers (14 per cent). Owner-tenants showed a 3 per cent average decrease.

Among tenancy and farm size-groups there was considerable variation in the percentage change in real income from paddy as shown in Table III. And the differences in the amount of change in absolute income were equally striking. The greatest loss in absolute real income was Rs. 814 per household for the medium-sized owner-tenants; the greatest average gain was Rs. 4,068 per household for the very large owner-operators. The rather large loss by the medium-sized owner-tenants may be an anomaly, since only two farmers are represented in this group. But other groups such as the small owner-tenants, the larger owner-operators and, to a very minor degree, the very small owner-operators also had an average decrease in real income related to paddy. Thus, some groups were *absolutely* worse off as a result of changes in paddy production.

TABLE III—AVERAGE RELATIVE AND ABSOLUTE CHANGE BETWEEN 1965-66 AND 1970-71 IN REAL INCOME PER SAMPLE HOUSEHOLD FROM PADDY PRODUCTION FOR LANDLESS LABOURERS AND FARM OPERATORS BY FARM SIZE AND TENURE IN SURVEY VILLAGES

	Relative change (per cent)	Absolute change (Rs.)
Farm operators		
Owner-operators		
Very small (35) ^a	0	— 2
Small (5)	+12	+ 232
Medium (7)	+ 3	+ 111
Large (6)	— 1	— 39
Very large (9)	+20	+ 4,068
Average (62)	+15	+ 622
Owner-tenant		
Very small (10)	+24	+ 89
Small (21)	— 1	— 10
Medium (2)	—25	— 814
Average (33)	— 3	— 25
Tenants		
Very small (25)	+13	+ 45
Small (23)	+13	+ 55
Medium (2)	+92	+ 1,231
Average (50)	+17	+ 73
All farm operators (145)	+13	+ 289
Landless labourers (67) ^b	+14	+ 49

^a Figures in parentheses indicate the number of farm operators in each group.

^b Represents a 27 per cent sample of all landless labourers.

In a relative sense the landless labourers gained about the same as the average farm operator (14 per cent average increase in income from paddy, compared to a 13 per cent increase for all farm operators as a group). But in terms of absolute change, the gains of landless labourers were only about one-sixth as great as the average for farm operators (Rs. 50 compared to Rs. 289).

Though the level of income from paddy was much less for the landless labourers than the average for all farm operators, it was nearly as much as for some groups of farm operators as shown in Table IV. In particular, the average income from paddy for the very small owner-tenants was not much higher than income from paddy labour for the landless labourers. And the income from paddy for the landless labourers was about the same as for the average very small tenant.

In spite of having nearly as much income from paddy as some groups of farm operators, all of the landless labourers expressed the desire to have some land. For even though the income from operating a small area of land may not be too much, if any, more than income earned as a landless labourer, the operation of at least some land would put them in a higher socio-economic position. In addition to the prestige of operating land, it reduces the risk of unemployment and implies greater possibility of more income from sources other than paddy as well as the possibility of land value appreciation.

TABLE IV—REAL VALUE INCOME PER SAMPLE HOUSEHOLD FROM PADDY AND OTHER INCOME SOURCES FOR LANDLESS LABOURERS AND FARM OPERATORS BY FARM SIZE AND TENURE, 1965-66 AND 1970-71

	1965-66			1970-71 ^a			Per cent change
	Paddy ^b	Other sources	Total income	Paddy ^b	Other sources	Total income	
	<i>Rupees</i>						
Farm operators							
Owner-operators							
Very small ..	505	355	860	503	427	930	+ 8
Small ..	1,996	1,336	3,332	2,228	1,449	3,677	+10
Medium ..	3,172	1,854	5,026	3,283	2,022	5,305	+ 6
Large ..	5,937	331	6,268	5,898	720	6,618	+ 6
Very large ..	20,185	4,977	25,162	24,253	5,380	29,633	+18
Average ..	4,277	1,304	5,581	4,899	1,466	6,365	+14
Owner-tenants							
Very small ..	368	225	593	457	162	619	+ 4
Small ..	891	153	1,044	881	151	1,032	- 1
Medium ..	3,258	1,436	4,694	2,444	1,341	3,785	-19
Average ..	847	282	1,129	822	252	1,074	- 5
Tenants							
Very small ..	342	169	511	387	178	565	+11
Small ..	419	488	907	474	384	858	- 5
Medium ..	1,341	143	1,484	2,572	186	2,758	+86
Average ..	422	310	732	495	293	788	+ 8
All farm operators ..	2,188	708	2,896	2,477	761	3,238	+12
Landless labourers ..	338	106	444	387	116	503	+13

^a Deflated by the factor 1.3 to reflect 1965-66 price levels.

^b Paddy income includes income from paddy production and income from paddy labour.

CHANGES IN REAL INCOME FROM ALL SOURCES¹²

The importance of paddy in its contribution to total income varied considerably between economic groups in the agricultural population as shown in Table IV. On an average, about 75 per cent of the total income was from paddy for both the landless labourers and farm operators. But smaller farm operators and landless labourers had a lower proportion of their total income from paddy than larger farmers. And tenants tended to have a lower proportion of income from paddy compared to the owner-operators or owner-tenants. In other words, those groups with a low level of income from paddy tended to have a higher proportion of total income from other sources.

When other sources of income are added to income from paddy, the owner-tenants as a group showed a 5 per cent decrease in real income. However, within this group the very small owner-tenants had a 4 per cent gain because of a large gain in paddy income which was greater than the decrease in real income from other sources. The small tenants as a group also had a 5 per cent decrease in total income in spite of a 13 per cent gain in income from paddy production.

All other farm operator groups and landless labourers had increases in total real income. By tenure the owner-operator group gained the most with a 14 per cent increase in real income, and the tenants as a group increased their real income by 8 per cent which was about half the increase as from paddy income by itself because of a decrease in real income from other sources. The landless labourers with a 13 per cent increase in total real income had a higher relative gain than most operator groups, the exceptions being the largest farm operators with an 18 per cent increase and the medium-sized tenants with an 86 per cent increase. But with only two farm operators in the medium-sized tenant group, it cannot be considered a very representative change.

When the landless labourers are combined with the farm operators, the Gini ratio as a measure of income distribution is reduced somewhat between the two periods. In 1970-71 the Gini ratio was .700 for all agricultural households compared to .707 in 1965-66 as shown in Table V. Thus, the measurement for the distribution of total income did not change appreciably. But as indicated by the high value for the Gini ratio and the high proportion of income received by the top ordinal groups of households, the distribution of total income was highly skewed. The top ordinal groups of households also increased their share of total income. While the share of the top 20 per cent increased only slightly from 75.7 to 75.8 per cent of total income, the top 5 per cent increased their share from 56.4 per cent to 58 per cent of the total income in the survey villages.

12. Income from all sources includes income from other crops, other agricultural labour, non-agricultural income, and miscellaneous other sources of income—in addition to paddy income.

TABLE V—PATTERNS OF DISTRIBUTION OF TOTAL VALUE INCOME AMONG ALL AGRICULTURAL HOUSEHOLDS IN SURVEY VILLAGES: SHARES OF ORDINAL GROUPS OF HOUSEHOLDS, 1965-66 AND 1970-71

Households ^a (ordinal ranking)	1965-66	1970-71
	<i>per cent</i>	
Top 5 per cent	56.4	58.0
Top 10 per cent	66.7	67.1
Top 20 per cent	75.7	75.7
Second 20 per cent	10.2	9.3
Third 20 per cent	6.7	6.6
Fourth 20 per cent	5.0	5.4
Bottom 20 per cent	2.3	2.9
Gini ratio	0.707	0.700

^a The observations for landless labour households were adjusted by a factor of 3.43 to represent the proportion of landless labour households relative to farm operator households.

In summary, the distribution of total income, as measured by the Gini ratio, remained about the same—being highly skewed in both periods. While the distribution of income remained relatively constant between the two periods, the general level of income did rise for the two villages as a whole. For both the median and mean household income, the total household income increased by 46 per cent at current prices and 12 per cent in real terms. Since most of the increase in income was associated either directly or indirectly with changes in paddy production, the general effect of the increased paddy production was to raise the level of income for the agricultural population as a whole.

CONCLUSIONS

Basic to the question of distribution of income is how property rights¹³ are shared among a given population. If everyone had the same set of property rights and used all resources at the same level, one could expect an equal distribution of income, *ceteris paribus*.

There were no major shifts in property rights during the period studied. For the most important property right in determining the levels of income, namely, ownership or control of land, there was a high concentration in the hands of a few households; and this did not change very much between the two periods.

13. Property rights is used here to define a set of formal and informal rules which specify how resources may be used.

The terms of tenure between the landlord and tenants remained constant between the two periods. In both years the tenant paid the same fixed quantity of paddy to the landlord. Although the quantity of paddy paid for the use of the land remained the same, the average proportion of the total harvest for all paddy crops declined from an average of 47 per cent to 40 per cent as a result of increase in yields. Thus, the increase in yields for tenants from the changes in paddy production were retained by them.

In addition to a greater number of hired labour days in paddy production, the wage rates received by the labourers also increased. At current prices, the daily wage rate increased by 39 per cent when all types and genders of labourers are combined. Allowing for inflation, the daily wage rate in real terms increased by 7 per cent over the five years.

With the above background, the following conclusions emerge about the income from paddy production and the effects of these changes on the distribution of income among the agricultural households in the survey villages.

1. Most farm operators had increased real income from paddy production. The only general exception were the owner-tenants who, as a group, experienced a 3 per cent decline in real income from paddy production. The owner-operators and tenants increased their real income from paddy production by 15 and 17 per cent, respectively. By farm size the very large farm operators were the biggest relative gainers with an 18 per cent increase in real income from paddy.

The variation in changes in returns from paddy production was due mostly to the changes in price received for paddy. The very large farm operators had much higher increases in the price they received for paddy than other groups of farm operators. These higher increases were due to an apparently better market position in the second period and the ability to store a larger proportion of the harvest.

2. The landless labourers had about the same gains in relative terms as most farm operator groups. While all farm operators as a group increased their total real income by 12 per cent, the landless labourers increased their total real income by 13 per cent. By farm size the only farm operator group to have a higher relative increase in total real income was the very large farm operator group who had an 18 per cent increase in total real income. All other farm size-groups had less relative increase in total real income than the landless labourers.

Of particular interest was the general indication by the landless labourers that they did not perceive any change in income while most farm operators indicated they had higher incomes. Apparently, the landless labourers

measured their gains in terms of movement on a socio-economic scale. In spite of nearly the same relative increase in income between the two periods, the landless labourers still had the lowest absolute level of income among the agricultural population in addition to not operating any land which is a highly desired goal for economic as well as socio-political reasons.

3. The distribution of total income among all agricultural households (including both farm operators and landless labourers) moved slightly towards a more equal distribution between the two periods. The Gini ratio for total income among all agricultural households was .700 in 1970-71 compared to .707 in 1965-66. The basic cause for this slight improvement in the distribution of total income was the slightly higher increase in income of the landless labourers who made up most of the bottom 60 per cent of the households by income.

While the direction of change in the Gini ratio was towards a more equal distribution of income, the change was marginal and cannot be considered a major shift. However, the fact that the value for the Gini ratio did not increase is in contrast to the popular view that the new varieties resulted in a worsening of income distribution. In total, the effect of the increase in the production of paddy on most agricultural households was to raise the general level of income for the two survey villages while the measure for the distribution of income remained relatively constant. Both the median and mean income increased by 46 per cent at current prices and by 12 per cent in real terms.

As a concluding comment on the distribution of income among agricultural households in survey villages, a note of warning should be made. While the Gini ratio for distribution of income did not change more than marginally, the level of the Gini ratios indicate a highly skewed distribution of income. With further political awareness and a growing belief that economic benefits should be shared more equally, the body politic may be wise to consider various ways of promoting a better distribution of income before the very large segment of low income earners embark on *ad hoc* programmes of their own which could be very damaging to the general growth and development of the economy. Various agitations have previously taken place in the district, and it may only be a question of time before these become better organized and more effective in their quest for a larger share of economic benefits in a society which has strongly stated egalitarian goals.

STAFF PAPERS IN PRINT

73-1 Ruttan, W. V., Hayami, *Technology Transfer und Agricultural Development.*

73-2 Strout. A. M., *Foreign Capital in Indonesian Economic Growth*, with a Comment by Arndt, H. W., Sundrum, R. M. and a Reply by Strout, A. M.

73-3 Collier, W. L., Soentoro, G. W., *Recent Changes in Rice Harvesting Methods.*

73-4 Mosher, A. T., *Higher Education in the Rural Social Sciences.*

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