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INTER-STATE VARIATIONS IN RURAL NON-AGRICULTURAL EMPLOYMENT - SOME TENTATIVE RESULTS

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INTRODUCTION

The share of non-agricultural workers (NAW) in rural work force show a very large inter-state variations in both the 1961 & 1971 Census data.[1/] For the year 1961, the share of NAW ranges from 58.92 percent in Kerala to 16.74 percent in Madhya Pradesh. Tamil Nadu with 29.10 percent ranks second among the states. The difference between Kerala and Tamil Nadu is thus so vast as to make the former a separate category by itself. Tamil Nadu is closely followed by Andhra Pradesh, Punjab and West Bengal. In the 1971 Census, we find Kerala retaining the first place again with 46.65 percent. Andhra Pradesh with 24.40 percent ranks second - the gap between the first (Kerala) and the second (Andhra Pradesh) ranking states remaining as wide as in 1961. Bihar with 12.29 percent occupies the last place among the states. In general we can say that the southern region comprising of Kerala, Andhra Pradesh, Tamil Nadu and to a lesser extent Karnataka, show a higher share of non-agricultural activities in rural work force distribution. Punjab in the north west and Bengal and Assam in the east also show higher shares whereas the central belt which includes Bihar, Uttar Pradesh and Madhya Pradesh is marked by a very low share of rural NAW.

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It is important to understand the reasons for these large variations in the share of rural NAV among states from the point of view of employment policy. Even after nearly three decades of planning and industrial development, the organised industrial sector, with its emphasis on higher level of capital intensity, has failed to attract the work force away from agriculture. At the same time there seem to be severe limits to the absorption of this growing work force in agriculture. A recent study suggests that any further absorption of labour into agriculture is possible only with prohibitively high level of investment.[2/] Consequently the possibilities of labour absorption in the rural non-agricultural sector assume crucial importance.[3/] An appraisal of these possibilities would be greatly facilitated by an analysis of the factors explaining differences in the share of the NAV in rural areas of different states. We must, in particular, find out the reasons for the concentration of non-agricultural employment in some regions of the country. It would help us to see how far the regions with low level of non-agricultural employment can benefit from the experience of the regions with high level of non-agricultural employment.

PROSPERITY & RURAL NON-AGRICULTURAL EMPLOYMENT

Inter-state variations in the share of NAW in rural areas can be explained, according to one thesis, in terms of agricultural prosperity.[4] It is postulated that the agricultural performance of the State is the crucial determinant of the extent of rural non-agricultural activity. More specifically a greater volume of secondary and tertiary activities will be generated, according to this thesis, in those states which have shown higher agricultural growth rates. As far as we know, no attempt has been made to verify this hypothesis before. A test, though admittedly a very crude and tentative one, is attempted below. In

In our first test we have taken the per capita (rural) consumer expenditure as an index of agricultural prosperity. We expect this index to be higher in states which have done well in agriculture and vice versa. The assumption here is that the increased rural prosperity would get reflected in higher level of consumption expenditure. For the year 1971, we have correlated the per capita consumer expenditure (rural) and the percentage of NAW (Table 1). Though we get a positive association between the two variables, it is a very weak relationship with r=0.150 only.[5] For the year 1961 we got state-wise per capita consumer expenditure (rural) adjusted for inter-regional price differences. This index is more reliable than what we were able to obtain for 1971, for we can compare the states at all-India price level. The r value for 1961 between the percentage of rural NAW and index of per capita consumer expenditure at all-India prices is (-) 0.305. Our first test thus seems to

indicate that the variations in the share of rural NAW can not be explained by the agricultural prosperity hypothesis.

Table 1: Correlation coefficients between the percentage of rural non-agricultural workers and some selected variables

Percentage of rural non-agricultural workers correlated with	Correlation Coefficients	
	1961	1971
Per capita (rural) consumer expenditure	(-) 0.305	+ 0.150
Value of crop output per agricultural worker	+ 0.460[1]	+ 0.393[1]
Percentage of workers (rural + urban) in manufacturing	+ 0.449	+ 0.498
Percentage of manufacturing in State Domestic Product	(-) 0.154[2]	(-) 0.101[2]
Percapita State Domestic Product	(-) 0.039[3]	+ 0.127[3]

Note: (1) Relates only to 13 states while (2) refers to 11 states and (3) to 12 states.

Secondly, we have taken a more direct indicator of agricultural prosperity viz. value of crop output per agricultural worker (agricultural workers being defined to include cultivators and agricultural labourers in the Census). Going by what the agricultural prosperity hypothesis says, one would expect a strong relationship between the percentage of rural NAW and the value of crop output per agricultural worker. The r value between these two factors for our state-wise data is 0.460 in 1961 and 0.393 in 1971. We have incidentally left out Kerala

from the analysis - the reason being that the value of output data that we have used excludes plantation crops (which are dominant in the cropping pattern of Kerala), and therefore we get a very low value of crop output for Kerala. Going back to the r values, it is clear that there exists a positive association between share of rural NAW and the value of crop output per agricultural worker. But the association is not strong even with a more direct index of agricultural prosperity that has been used in our second test. Hence we maintain that differences in agricultural prosperity by and large do not explain the variations in the share of rural NAW.

Another variant of the prosperity hypothesis could be that the level of rural non-agricultural activity may be associated with the general level of industrial development of a region or general level of economic prosperity. Let us first take up the proposition that the share of rural NAW is related to the level of industrial development since the rural non-agricultural sector may be geared to cater to the requirements of urban industry within the state. We have constructed two indices for the latter. First, the work force employed in the manufacturing sector which is defined, for this purpose, to include household industry, manufacturing (other than household industry), construction and transport, storage and communication from the industrial groups in the 1961 Census. For 1971, mining and quarrying has also been added to the above list. This change in classification does not matter much since we are not making inter-censal comparison. Industries such as transport, construction, etc., are traditionally counted as part of the service sector. But we believe that these industries have nothing in common with purely service activities such as administration and so on

and are better treated as a part of industrial production proper. The share of rural N/W and the share of workers in total manufacturing sector (rural + urban) are positively associated as suggested by the r values in Table 1. However this is atleast partly due to the inclusion of rural manufacturing workers in both variables of the correlation, hence this also has to be interpreted as a weak correlation. The second index of industrial development is the percentage share of the manufacturing sector in the State Domestic Product (SDP). Here again we have defined manufacturing sector in a broader way as earlier. The data have been compiled from Reserve Bank of India Bulletin, April 1978. Assam, are excluded from the analysis; in the case of Assam and Karnataka Bihar and Karnataka/the base year is different and the data for Bihar are not given in the above source. The share of rural N/W and the percentage of manufacturing in SDP are negatively related for both points of time. We can, thus, assert that the level of rural non-agricultural activity is not strongly associated with the overall industrial development of the State.

Finally per capita SDP is taken as a proxy for the general level of economic prosperity, using the same RBI data, and correlated with N/W. Assam and Karnataka are excluded for the same reason as mentioned above and the remaining 14 major states are taken into account. The percentage of N/W and per capita SDP show negative relationship in 1961 (-0.154) and positive, but weak relationship in 1971 (+0.127). Our analysis, thus, shows that the level of rural non-agricultural activity is not related strongly with either agricultural prosperity or overall industrial development or even the general level of economic prosperity in the state.

II

COMMERCIALISATION IN AGRICULTURE & RURAL NON-AGRICULTURAL EMPLOYMENT

Having seen that the hypotheses of either agricultural prosperity, industrial development or general prosperity do not adequately explain the share of NAW in rural areas, we now turn to the formulation of an alternative hypothesis. The level of rural non-agricultural activity, in our view, is a reflection of the extent of linkages of agriculture with the non-agricultural sector. Agriculture exports raw materials and food items and imports non-food items for consumption and also inputs that go into production. The rural non-agricultural sector carries out the processing, trading, etc. of the agricultural produce and also deals with the import requirements of the agricultural sector. All these imply the development of commercial relations in agriculture. So the higher the level of development of commercial relations in agriculture the higher will be the volume of rural non-agricultural activity. In other words we hypothesise that it is the degree of commercialisation of agriculture that determines the level of non-agricultural activity in rural areas.

To test the hypothesis that the development of commercial relations in agriculture determines the volume of non-agricultural activity, we are taking two indices to capture the export and import activities of agriculture. The percentage of area under non-food crops to total cropped area is used to measure the extent of exports from agriculture. This index is partial in that it does not capture the share of the food crop output that is marketed. We are not able to get a satisfactory measure of the export of food crop output mainly due to the lack of data

availability. This problem, however, is taken care of to some extent, when we consider the imports into agriculture at a later stage. We have correlated the percentage of area under non-food crops with the share of rural NAW and the individual industrial groups within it, such as household industry, etc. This has been done for both 1961 and 1971 and the results are presented in Table 2. The cash crop cultivation, as the Table shows, is both positively and very strongly associated with the percent of rural NAW (+0.706). It is evident that the extent of cash crop cultivation has a much stronger relationship with the level of rural non-agricultural activity than the indices of agricultural or general level of prosperity. The percentage of area under non-food crops is also equally strongly related with the percent of rural NAW when we include female workers in the analysis. The association between cash crop cultivation and the various components of rural non-agricultural sector is also positive and fairly strong. Special mention should be made of its relationship with manufacturing (other than household industry) and trade and commerce. On the whole, tertiary activities seem to be more strongly associated with the percentage of area under non-food crops than secondary activities. However within manufacturing while household industry is very weakly correlated with NAW, other manufacturing shows a fairly strong association comparable to tertiary activity. We find the r value between cash crop cultivation and rural non-agricultural activity becoming even stronger in 1971. As in 1961, we get more or less similar results for the year 1971 as well.

In the state-wise data that we have used for the above analysis, Kerala has very high percentage of NAW as well as percentage of area under non-food crops. For instance, in the year 1961 (Appendix 1

Table 2: Correlation coefficients between the percentage of area under non-food crops and the percentage of rural non-agricultural workers (aggregate and some individual categories)

Percentage of area under non-food crops correlated with:	Correlation Coefficients	
	1961	1971
Percentage of rural non-agricultural workers	+ 0.680	+ 0.805
Percentage of rural non-agricultural workers (male and female)	+ 0.612	+ 0.715
Percentage of rural non-agricultural workers (without Kerala)	+ 0.229	+ 0.525
Percentage of rural workers in secondary sector	+ 0.523	+ 0.788
Percentage of rural workers in tertiary sector	+ 0.642	+ 0.733
Percentage of rural workers in household industry	+ 0.108	+ 0.280
Percentage of rural workers in manufacturing (other than household industry)	+ 0.629	+ 0.791
Percentage of rural workers in trade and commerce	+ 0.642	+ 0.825
Percentage of rural workers in transport, storage and communication	+ 0.622	+ 0.752
Percentage of rural workers in other services	+ 0.618	+ 0.540

shows that Kerala has 65.3 percent of its total cropped area under non-food crops and 58.92 percent of its total workers in the non-agricultural sector. Contrast this situation with Tamil Nadu, which has only 32.31 percent under non-food crops and 29.10 percent of rural NAW, taking second place among states in regard to rural non-agricultural sector. Naturally such high values of Kerala would distort the picture and give us a very

high r value. To take into account this problem, r values between percentage of area under non-food crops and share of rural NAW have been worked out for 1961 and 1971 leaving out Kerala. For 1971, the association between these two variables still remains positive and strong; though admittedly it becomes weaker for the year 1961. But as we shall see later, for 1961 the index of imports into agriculture retains its strength of association with the level of rural non-agricultural activity even without Kerala. Thus it can be asserted that the percentage of area under non-food crops has strong association with the percentage of workers in rural non-agricultural sector.

As we mentioned earlier our index of exports from agriculture is partial as it does not take into account the extent of the development of commercial relations in food crops. Now we are attempting here to take an index of imports into agriculture where the activities of both food and non-food agriculture are covered. The index of imports is defined as the percentage of cash purchase to total consumption expenditure in rural areas and the data have been compiled from 18th Round (1963-64) of the NSS consumer expenditure survey. The cash purchase refers to both food and non-food agriculture. The r values between the percentage of cash purchase and the share of rural NAW is shown in Table 3 along with other variables. The strong relationship between these two variables is evident from the Table. In fact, the percentage of rural NAW is even more strongly associated with the extent of cash purchase than with the percent of area under cash crops. The association is equally strong when we include female workers. As it was pointed out earlier the r value without Kerala also remains fairly high. It should be remembered in the context that the extent of commodity production

in food crops is also captured in the index of imports since the latter is financed by the cash income from commodity production. For this reason we get very high r value when we relate our indices of imports and agricultural exports. Thus there seem to be strong reasons to believe that the share of rural NAW is closely related to the development of commercial relations in agriculture. The r values of the percentage of cash purchase with disaggregated categories like trade and commerce, etc. also broadly conform to the results that we have obtained earlier.

Table 3: Correlation coefficients between the percentage of cash purchase and the percentage of rural non-agricultural workers aggregate and some individual categories - 1961

Percentage of cash purchase correlated with:	Correlation Coefficients
Percentage of rural non-agricultural workers	+ 0.755
Percentage of rural non-agricultural workers (male and female)	+ 0.688
Percentage of rural non-agricultural workers (without Kerala)	+ 0.687
Percentage of rural workers in secondary sector	+ 0.588
Percentage of rural workers in tertiary sector	+ 0.687
Percentage of rural workers in household industry	+ 0.068
Percentage of rural workers in manufacturing (Other than household industry)	+ 0.767
Percentage of rural workers in trade and commerce	+ 0.686
Percentage of rural workers in transport, storage and communication	+ 0.625
Percentage of rural workers in other services	+ 0.658
Percentage of area under non-food crops	+ 0.803

One other important result of our analysis is that the export and import indices are themselves not strongly associated with the indices of prosperity that we discussed in the previous section. The r values between the percentage of area under non-food crops and the percentage of cash purchase with the value of crop output per agricultural worker (agricultural prosperity), the percentage of workers in and the percentage share in SDP of manufacturing (industrial development) and the per capita SDP (general level of prosperity) have been shown in Table 4. Agricultural prosperity, as the r values indicate, does not seem to be strongly associated with the exports from and imports into agriculture. Much the same conclusion is valid in the case of industrial development except that the percentage of workers in manufacturing is rather strongly associated with the import index. Overall economic prosperity has almost no impact on the two variables under discussion. It is significant that the broad indicators of sectoral and overall development have no bearing on either rural non-agricultural activity or the commercialisation of agriculture which, in our analysis, is emerging as the determinant of the former. Now the question arises as to what are the factors that promote commercial agriculture. The next section is devoted to this aspect.

III

DETERMINANTS OF COMMERCIAL AGRICULTURE

The factors that foster the growth of commercial agriculture can be classified into internal and external. The development of agro-based industries constitute a major external factor that leads to the growth of cultivation of cash crops. It is these industries which create the demand for raw materials. In the colonial period the demand for raw

Table 4: Correlation Coefficients between (a) the percentage of area under non-food crops and (b) percentage of cash purchase and selected indices of development.

Percentage of area under non-food crops correlated with:	Correlation Coefficients	
	1961	1971
Value of crop output per agricultural worker	+ 0.479[1]	+ 0.326[1]
Percentage of workers (rural + urban) in manufacturing	+ 0.474	+ 0.513
Percentage of manufacturing in State Domestic Product	+ 0.144[2]	+ 0.020[2]
Per capita State Domestic Product	+ 0.207[3]	+ 0.311[3]
Percentage of cash purchase correlated with:		
Value of crop output per agricultural worker	+ 0.326[1]	-
Percentage of workers (rural + urban) in manufacturing	+ 0.683	-
Percentage of manufacturing in State Domestic Product	+ 0.262[2]	-
Per capita State Domestic Product	+ 0.366[3]	-

Note: Same as Table 1

materials produced by agriculture came largely from the development of agro-based industries in England.[6] This had resulted in the cash crops making rapid progress in India in terms of area, productivity and so on.[7] Though the process of commercialisation of agriculture was rapid in the colonial period, it was by no means voluntary. In other words, the peasantry was, in varying degree, forced into the cultivation of cash crops.[8] In the post-independent period, it is our hunch that there is

qualitative change in the process of commercialisation of agriculture. With the growth of agro-based industries in India, the demand for raw materials comes from within the country. It is possible that the small farmers or the big landlords may be responding to this internal demand for raw materials voluntarily. Because of this qualitative difference we believe that the growth of cash crop cultivation in recent years has some regenerative impact in the rural non-agricultural sector.

In order to test the proposition that the agro-based industries provide impetus for cash crop cultivation, we have used employment data on the major-group-wise breakdown of manufacturing given in 1961 Census. The industries have been grouped into food, textiles and others and these are correlated (both rural and rural + urban) with the percentage area under non-food crops and the percentage of cash purchase (see Table 5A and 5B). We see a fairly high degree of association between food and textiles industry groups and the percentage of area under non-food crops as well as the percentage of cash purchase - with the latter the relationship becomes even stronger for the reason we had mentioned earlier. Our conclusion holds good both in the case of rural as well as rural + urban agro-based industries. Since the agro-based industries have larger weightage in the industrial structure, their share of the demand for food items is also likely to be considerable. Thus we can assert that the development of agro-based industries provide a strong stimulus for the commercialisation of agriculture and thereby also leads to greater volume of non-agricultural activity in rural areas. Thus while the level of rural non-agricultural activity is not influenced by industrial development in general, it does seem to be strongly influenced by the growth of agro-based industries.

Table 5A: Correlation Coefficients between (a) percentage of area under non-food crops and (b) percentage of cash purchase and percentage of workers (rural) in some industry groups, 1961

Percentage of area under non-food crops correlated with:	Correlation Coefficients
Percentage of workers in food industries	+ 0.632
Percentage of workers in textile industries	+ 0.718
Percentage of workers in other industries	+ 0.545
Percentage of cash purchase correlated with:	
Percentage of workers in food industries	+ 0.740
Percentage of workers in textile industries	+ 0.837
Percentage of workers in other industries	+ 0.694

Table 5B : Correlation Coefficients between (a) percentage of area under non-food crops and (b) percentage of cash purchase and percentage of workers (rural + urban) in some industry groups, 1961

Percentage of area under non-food crops correlated with:	Correlation Coefficients
Percentage of workers in food industries	+ 0.636
Percentage of workers in textile industries	+ 0.469
Percentage of workers in other industries	+ 0.267
Percentage of cash purchase correlated with:	
Percentage of workers in food industries	+ 0.806
Percentage of workers in textile industries	+ 0.534
Percentage of workers in other industries	+ 0.590

There are also factors internal to agriculture, which could promote commercialisation. We have examined here only one such variable viz. the distribution of land. We hypothesise that the rich peasants or landlords with larger holdings have surpluses for the market. Lorentz ratio for the distribution of land for 1971 has been correlated with the percentage of area under non-food crops and the r value is + 0.410. Though these two variables are associated, it is not a strong one. The correlation would perhaps be stronger if we had a better index of production for the market i.e. one which includes marketing of food crops. When using the alternative index of cash purchase we find that it is more strongly associated with the land distribution (+0.520). What emerges tentatively, from our analysis is that while internal factors like land distribution do play a role it is external factors like the growth of agro-based industries which have had a greater influence on the growth of commercial agriculture.

IV

CONCLUSION

The foregoing analysis enables us to conclude that the level of non-agricultural activity is determined primarily by the degree of commercialisation of agriculture. When agriculture produces for the market and in turn depends on the market for its own requirements, we can expect a higher volume of non-agricultural activity to take place. Furthermore the commercialisation of agriculture itself seems to be primarily determined by the growth of agro-based industries though factors internal to agriculture, like the distribution of land, also seem to be important. It should be emphasised, however, that these conclusions are really tentative and need much more verification.

Notes and References

1. We have taken only the male work-force since the female work-force data is less amenable to clear interpretation. Our non-agricultural sector is defined to include all the industrial groups of the Census except cultivators and agricultural labourers. Throughout the paper the analysis has been done with State-wise data and only the 14 major states have been included. Appendix 1 and Appendix 2 present the basic information relating to all the variables for 1961 and 1971 respectively.

2. Y.K. Alagh, G.S. Bhalla and A. Bhaduri in Labour Absorption in Indian Agriculture (ARTEP, ILO, Bangkok, 1978).

3. V.S. Vyas and George Mathai, "Farm and Non-Farm Employment in Rural Areas - A Perspective for Planning", Economic and Political Weekly, Vol. XIII, Nos. 6 & 7, Annual Number 1978.

4. See for instance A.N. Raj, "Growth and Stagnation in Indian Industrial Development", Economic and Political Weekly, Vol. XI, Nos. 5, 6 and 7, Annual Number 1976.

5. It will be noted that throughout the paper we have refrained from citing any t-values of our estimates. This is because the tests of significance are meaningful only when the data are collected from a random sample whereas our data are mostly related to the population.

6. Among others, see Sunil Sen, Agrarian Relations in India 1793-1947 (People's Publishing House, 1979).

7. For the period 1900-1939, see Table 4.7 in Amiya Kumar Bagchi, Private Investment in India 1900-1939, (Orient Longman, 1975)

8. Benoy Chowdhury, Growth of Commercial Agriculture in Bengal (1757-1900), (Indian Studies Past & Present, 1964).

Appendix 1 - Basic Data, 1961 [illegible]

State	1	2	3	4	5	6	7	8	9	10	11
Andhra Pradesh	28.26	24.13	12.06	10.85	10.40	1.65	0.90	0.27	0.48	1.23	0.65
Assam	25.11	27.10	2.31	12.59	0.70	1.60	0.29	0.34	0.26	0.41	0.52
Bihar	20.67	18.47	5.95	10.24	4.49	1.45	0.42	0.19	0.84	0.75	0.36
Gujarat	21.69	18.54	8.45	10.85	6.47	1.99	0.33	0.81	0.88	0.88	4.82
Kerala	58.92	57.15	13.40	33.24	5.03	8.37	2.46	1.65	4.25	2.76	2.15
Madhya Pradesh	16.74	13.47	5.40	6.88	4.96	0.44	0.11	0.06	0.27	0.47	0.90
Maharashtra	19.80	13.79	6.01	8.28	5.06	1.85	0.68	0.42	0.76	1.18	4.15
Karnataka	21.27	19.00	7.66	8.75	6.11	1.55	0.33	0.29	0.92	0.84	1.31
Orissa	20.49	22.48	5.71	12.78	5.32	0.38	0.07	0.10	0.21	0.19	0.25
Punjab	27.05	24.46	11.10	14.81	8.46	2.64	0.41	0.47	1.76	1.02	1.32
Rajasthan	18.06	14.98	7.22	7.99	6.47	0.75	0.13	0.26	0.37	0.41	0.71
Tamil Nadu	29.10	27.22	9.19	15.66	6.17	3.03	0.55	0.90	1.57	1.25	2.19
Utter Pradesh	18.21	17.02	6.90	10.10	5.56	1.34	0.49	0.25	0.60	0.77	0.83
West Bengal	27.16	28.35	7.41	13.29	3.42	3.90	0.75	0.89	2.36	1.41	3.70

	12	13	14	15	16	17	18	19	20	21	22
	1.55	3.16	0.66	7.03	91.3	1519	17.21	17.72	275	30.73	61.7
	1.72	3.46	0.96	8.17	108.2	1041	6.78	-	-	30.68	55.5
	1.86	2.39	0.99	6.86	93.7	840	10.15	-	215	12.50	52.2
	3.09	3.14	1.04	6.67	90.8	1942	18.85	31.00	362	55.09	64.9
	5.05	6.11	2.65	24.49	85.3	-	20.14	19.21	259	45.33	80.8
	1.67	1.46	0.43	4.99	109.6	1328	11.30	21.55	260	16.82	45.4
	4.89	2.19	0.81	5.28	90.9	1464	20.36	32.61	409	35.45	66.0
	2.96	2.09	0.43	6.24	92.4	1388	15.19	-	-	34.12	61.7
	0.93	1.41	0.36	11.01	88.3	1375	8.20	16.85	217	26.03	52.1
	3.54	3.38	1.07	10.36	122.5	2474	17.99	20.32	339	26.09	52.5
	1.34	2.34	0.51	5.15	102.3	964	12.42	20.03	284	23.71	50.4
	3.99	2.92	0.67	12.07	96.4	1555	18.38	21.13	334	32.31	72.7
	1.83	2.33	0.74	7.04	101.7	1054	12.00	16.26	252	16.48	46.0
	7.27	3.64	1.20	8.42	91.6	1430	20.70	32.15	390	15.54	59.5

Index to column numbers in Appendix 1

1. Percentage of rural non-agricultural workers
2. Percentage of rural non-agricultural workers (Male + Female)
3. Percentage of rural workers in secondary sector
4. Percentage of rural workers in tertiary sector
5. Percentage of rural workers in household industry
6. Percentage of rural workers in manufacturing (other than household industry)
7. Percentage of rural workers in food industry
8. Percentage of rural workers in textile industry
9. Percentage of rural workers in other industries
10. Percentage of workers in food industry (rural + urban)
11. Percentage of workers in textile industry (rural + urban)
12. Percentage of workers in other industries (rural + urban)
13. Percentage of rural workers in trade and commerce
14. Percentage of rural workers in transport, storage and communication
15. Percentage of rural workers in other services
16. Index of percapita (rural) consumer expenditure at all-India prices
17. Value of crop output per agricultural worker in rupees
18. Percentage of workers in manufacturing (rural + urban)
19. Percentage of manufacturing in State Domestic Product at Factor cost (1960-61 prices)
20. Percapita State Domestic Product at 1960-61 prices in rupees
21. Percentage of area under non-food crops to total cropped area
22. Percentage of cash purchase to total consumption expenditure (rural)

Appendix 2: Basic Data, 1971

State	1	2	3	4	5	6	7	8
Andhra Pradesh	24.40	20.88	7.67	10.35	5.18	2.48	3.50	1.00
Assam	23.43	27.34	2.48	12.84	0.89	1.58	3.54	1.21
Bihar	12.29	11.39	3.63	6.55	2.23	1.38	1.95	0.88
Gujarat	18.19	16.23	6.04	8.73	3.04	3.00	3.17	1.27
Kerala	46.65	45.38	12.80	23.42	3.17	9.63	9.33	3.47
Madhya Pradesh	12.83	11.05	4.18	5.67	3.24	0.94	1.53	0.43
Maharashtra	18.17	14.34	6.05	8.73	3.23	2.82	2.48	0.86
Karnataka	20.49	20.21	5.56	8.65	3.26	2.30	2.77	0.77
Orissa	16.17	16.92	4.25	8.94	3.02	1.23	1.33	0.70
Punjab including Haryana	21.84	22.19	6.62	12.34	3.37	3.25	3.09	1.22
Rajasthan	16.28	15.42	4.21	8.11	2.98	1.23	2.24	0.76
Tamil Nadu	23.44	21.61	8.16	11.25	3.52	4.64	3.90	1.04
Uttar Pradesh	13.53	12.90	4.68	7.82	3.10	1.58	1.92	0.54
West Bengal	21.17	21.93	6.21	10.40	3.44	3.77	3.17	1.47

	9	10	11	12	13	14	15	16
	5.84	34.35	1294	15.52	22.45	310	35.49	0.7408
	8.09	40.27	1119	7.89	-	-	25.51	0.5830
	3.72	33.15	699	8.24	-	207	10.14	0.6440
	4.29	36.64	1806	18.58	30.49	439	50.33	0.6820
	10.63	36.12	-	21.83	22.11	298	68.86	0.6784
	3.71	32.88	1248	10.78	27.97	261	19.42	0.5946
	5.39	36.39	948	21.64	42.77	427	30.35	0.6655
	5.10	35.89	1432	15.74		-	33.35	0.6780
	6.32	28.86	1131	8.17	19.65	245	14.73	0.6275
	8.02	54.27	3385	25.63	22.31	458	26.97	0.7538
	5.11	35.39	1259	11.03	17.28	352	24.03	0.5576
	6.30	29.98	1588	20.10	30.38	349	33.68	0.7189
	5.36	35.08	1167	10.16	20.91	269	15.21	0.6142
	5.77	33.32	1395	20.86	33.44	382	12.58	0.7434

Index to column numbers in Appendix 2

1. Percentage of rural non-agricultural workers
2. Percentage of rural non-agricultural workers (Male + Female)
3. Percentage of rural workers in secondary sector
4. Percentage of rural workers in tertiary sector
5. Percentage of rural workers in household industry
6. Percentage of rural workers in manufacturing (other than household industry)
7. Percentage of rural workers in trade and commerce
8. Percentage of rural workers in transport, storage and communication
9. Percentage of rural workers in other services
10. Total percapita consumer expenditure in rupees (rural)
11. Value of crop output per agricultural worker in rupees
12. Percentage of workers in manufacturing (rural + urban)
13. Percentage of manufacturing in State Domestic Product at Factor cost (1960-61 prices)
14. Percapita State Domestic Product at 1960-61 prices in rupees
15. Percentage of area under non-food crops to total cropped area
16. Lorentz ratio for the distribution of land holdings (operational)

Notes:

1. In columns 1 to 15 in Appendix 1 (columns 1 to 9 in Appendix 2), percentages have been worked out using total rural workers as the denominator except in columns 10 to 12 in Appendix 1.

2. Figures in columns 1 to 15 in Appendix 1 (columns 1 to 9 in Appendix 2) refer to rural areas only except in columns 10 to 12 in Appendix 1. They also relate to male only except in column 2 (in both Appendices).

3. Secondary sector in column 3 in both Appendices comprises household industry and manufacturing (other than household industry) whereas tertiary sector (column 4 in both Appendices) includes trade and commerce, transport, storage and communication and other services.

4. Columns 7 to 12 in Appendix 1 refer to the major group-wise break-up of manufacturing. The food industry includes major groups 20 to 22 while the textiles cover 23 to 27. Other industries comprise the rest of the major groups. The data refer only to the non-household sector.

5. In column 17 in Appendix 1 (column 11 in Appendix 2), agricultural workers include male cultivators and agricultural labourers in rural areas only.

6. Manufacturing in column 18 in Appendix 1 (column 12 in Appendix 2) covers Census industrial groups like household industry, manufacturing (other than household industry), construction and transport, storage and communication for 1971. Besides above, mining and quarrying is also included for 1971. Figures refer to male workers in both rural and urban areas; the total workers is the denominator.

7. In column 19 in Appendix 1 (column 13 in Appendix 2) also manufacturing includes mining and quarrying, manufacturing, construction, electricity, gas and water supply and transport and communication. For Bihar the data are not available. In the case of Orissa the data for 1971-72 have been used whereas for other states the figures relate to 1970-71.

8. For per capita SDP the base year is 1960-61 for all the States (column 20 in Appendix 1 and column 14 in Appendix 2). Assam and Karnataka are excluded as their base year is different. The figure for Bihar refers to 1969-70 while for other states data for 1970-71 are used.

9. Lorentz ratios for the land distribution in column 16, Appendix 2 exclude 0 size-class.

Sources:

1. For columns 1 to 6 and 13 to 15 and 18 in Appendix 1 and 1 to 9 and 12 in Appendix 2, the data have been collected from Census of India, 1961, Vol.I, India, Part II-A(ii), Union Primary Census Abstracts and Census of India 1971, Series I-India, Part II-A(ii), Union Primary Census Abstracts respectively.

2. Columns 7 to 12 in Appendix 1 are derived from Census of India - 1961, Vol.I, India, Part II-B(i), General Economic Tables.

3. Column 16 in Appendix 1 is given in T.N. Srinivasan and P.K. Bardhan (Ed.) "Poverty and Income Distribution", p.355.

4. For column 10 in Appendix 2, see N.S.S. Consumer Expenditure Survey, 1970-71, 25th round.

5. In column 17 in Appendix 1 and 11 in Appendix 2, the data on the value of crop output is taken from "Foodgrains Growth: A Districtwise Study" - Joint Project by Jawaharlal Nehru University and Perspective Planning Division (Planning Commission). The data on the agricultural population are compiled from Census of India 1961, Vol.I, India, Part-II-A(ii), Union Primary Census Abstracts and Census of India 1971, Series I-India, Part II-A(ii), Union Primary Census Abstracts.

6. The data given in columns 19 and 20 in Appendix 1 and 13 and 14 in Appendix 2 have been compiled from the series in Reserve Bank of India Bulletin, April 1976.

7. Column 21 in Appendix 1 and 15 in Appendix 2 are from the various issues of Statistical Abstract of India.

8. Column 22 in Appendix 1 is from A.K. Halder and Bina Roy, "Variations in the degree of monetization among different states in India" - paper presented in the Seventeenth Indian Econometric Conference held in Centre for Development Studies, 1977.

9. Column 16 in Appendix 2 is given in Chandan Mukherjee and Sujana Rai, "Lorentz ratios for distribution of rural ownership and operational land holdings, India, 1971-72" - working paper No.94, Centre for Development Studies.