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RAPPORTEUR'S REPORT ON CHANGING STRUCTURE OF
OWNERSHIP OF LAND AND ASSOCIATED ASSETS AND RURAL
LABOUR FORCE ABSORPTION IN DIFFERENT REGIONS

Rapporteur: K. Subbarao*

The theme chosen was quite broad and there was ample scope for the contributions to cover a number of interesting issues. The synopsis inviting papers suggested that the focus should be on the analysis of changes in: (a) the size distribution and composition of rural assets (land, capital and livestock in particular) and the extent to which such changes were induced by state policy (land reform, IRDP intervention, etc); (b) tenurial relations; (c) forms of labour and employer/employee relations; (d) indebtedness; and (e) the impact of changes in the non-agricultural sectors on the agrarian structure. The synopsis emphasised that the authors should capture changes over time—either from large surveys or from micro (village) surveys—and interpret the observed changes, so that one gains insights into the emerging rural community structure, and the processes at work in the shaping of that structure.

Fifty-one papers have been accepted for discussion on this theme. As many as 35 papers dealt with exclusively the first aspect, seven papers each explored the second and third aspects but only three dealt with the fourth, and none with the last aspect. The empirical evidence in the papers covered agriculturally prosperous as well as lagging regions, cash crop (including plantation) growing regions, and even one predominantly tribal region. Both large scale (all-India) surveys and village surveys have been used in the papers. With few exceptions, the authors have compared the situation at two or more points of time.

I

METHODOLOGICAL ISSUES

While the papers are rich in factual details, most authors did not pay much attention to the conceptual and methodological problems involved in comparisons over time (especially with data drawn from large surveys). Some of the authors did not mention whether temporal comparisons of assets were in nominal terms or in real terms; some others merrily compared them in nominal terms without worrying about correcting for inflation. Most authors did not bother to bear in mind the fact that while the Agricultural Census 1970-71 was based on complete enumeration, that of 1980-81 was based only on a ten per cent sample. Finally, very few developed an analytical framework to meaningfully interpret the observed changes over

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time. Consequently, most papers tended to be descriptive, leaving the analytical quality (often even descriptive quality) much to be desired.

Most authors computed the Gini ratio and interpreted that even a marginal reduction in this ratio as an 'improvement.' The normative character of inequality comparisons has not been kept in mind while comparing changes in the ratios over time. The degree of inequality depends upon the choice of the inequality measure and all inequality measures embody *implicit* value judgements about what constitutes a more or less equitable situation. This can be illustrated with the following simple hypothetical example developed by Psacharopoulos:¹

TABLE I. ILLUSTRATION SHOWING ALTERNATIVE INCOME REDISTRIBUTION POLICIES

Distribution	Income of			Gini coefficient	Atkinson Index
	A	B	C		
Original	50	100	1,000	0.550	0.75
Policy 1	70	80	1,000	0.539	0.72
Policy 2	50	120	980	0.539	0.73

Application of the Gini coefficient gives the result that both Policy changes are equally effective in reducing inequality relative to the initial situation: yet we know that Policy 1 has a very different distribution from Policy 2. This is the classic case of insensitivity of the Gini coefficient which merely measures the area under the Lorenz curve. The implicit value judgement associated with the Gini coefficient has been removed by the Atkinson inequality measure which contains an explicit parameter (ϵ) for the value one puts on equity (or inequality aversion). The algebraic specification² of the underlying welfare function is such that transfers at the lower end of the distribution count more heavily than transfers at the top. Thus, arbitrarily assuming a weight $\epsilon = 2$, Atkinson Index shows that Policy 1 is more equal than Policy 2. In all discussions on equity involving measurement in the Indian context, I would advocate the use of Atkinson Index.

There are additional problems common to many papers. Many did not give the sources for the tables, the reference years, whether values were in nominal terms or real terms, and such essential details as 'operational holdings' or 'ownership holdings,' sample size, etc. These details are important even for a reasonably good description of the data sets and of course crucial for interpretation of trends.

The next section summarises the main findings and conclusions of the papers under three sub-themes: trends in rural asset distribution and

1. See G. Psacharopoulos, 'Education, Employment and Inequality in LDCs', *World Development*, Vol. 9, 1981, pp. 37-54.

2. This is not the place to discuss the technical aspects of these indices. Interested readers may consult N. C. Kakwani: *Income Inequality and Poverty*, Oxford University Press, London, 1980.

composition; changes in tenurial relations, labour absorption and related issues; and changes in the debt burden. An attempt is made in the final section to delineate the emerging rural socio-economic structure as thrown up by the papers, and raise some issues for discussion.

II

TRENDS IN RURAL ASSET DISTRIBUTION AND COMPOSITION OVER THE 1970s

Before discussing individual papers, a few major conclusions arising out of these papers are worth noting at the outset.

First, there has been a steady decline in the average size of ownership as well as operational holdings in most parts of the country. This finding is corroborated by large surveys and also by data collected by resurveys of villages in different parts of the country.

Second, there has been a phenomenal growth of marginal holdings all over the country (especially in the Eastern India) and a decline in the operational holding size of marginal farms. The only exceptions are Punjab and Haryana, where the small and marginal ownership holdings either tended to increase their operational holdings by leasing in, or leased out, or opted out of farming.

Third, while the concentration ratio of ownership holdings either remained stable or only marginally decreased in a few States, that of operational holdings increased in almost all States.³ This is because, notwithstanding the decline in the share of large operators in the number of holdings and area, there has been a rapid rise in the number of marginal holdings but very little increase in their operated area. However, as can be expected, the degree of inequality of operational holdings was lower than ownership holdings in 1971 as well as 1981.

Fourth, when land and non-land assets are considered together, the concentration ratio for the country as a whole remained relatively stable, but there are inter-State variations.⁴

Finally, the composition of rural assets again showed remarkable stability. The only notable changes are the decline in the relative share of livestock more or less consistently in all the States, and a rise in that of durable household assets. Again, there are interesting inter-State variations: Punjab and Haryana showing a less dramatic increase in household durable assets, but a sharp rise in the share of agricultural implements.

3. It must be stressed that these are based on land distribution uncorrected for quality differences. Surjit Bhalla, using the NCAER Fertiliser Survey data, showed that when adjustments were made for quality differences, the estimated concentration ratios of land were much lower. See Surjit Bhalla, "Mis-specification in Farm Productivity Analysis: The Role of Land Quality", The World Bank, July 1984 (mimeo.). This point was also noted by Dantwala (see his Keynote Paper in this issue). However, it must be recognised that possession (ownership) of large tracts of even moderately productive land would undoubtedly contribute to socio-political dominance of large farmers, apart from helping them in the institutional credit market.

4. While Jammu & Kashmir recorded a small rise in the concentration ratio, Gujarat registered a sharp decline, and an impressive rise in the share of the bottom 35 per cent of the population in rural assets.

HIGHLIGHTS OF PAPERS

(i) Papers Based on Large Surveys

T. Haque used the 26th Round (1971-72) and 37th Round (1981-82) NSS survey data and computed the Gini coefficients of ownership and operational holdings for each State. Greater inequality was observed in many States, especially for operational holdings. The proportion of marginal holdings to total ownership holdings rose in all the States except Haryana, Punjab and Orissa. In Punjab and Haryana, there was a marginal decline in the concentration of ownership holdings, but a sharp rise in the ratio for operational holdings, so that in 1981 the values of the ratios for ownership and operational holdings almost converged. It would have been helpful if Haque looked at the inter-State variations in the behaviour of the average size of operational holdings under each size category in 1971 and 1981.

P. S. Sandhu and S. S. Grewal used the NSS data for 1953-54, 1961-62 and 1971-72 (8th, 17th and 26th Rounds) and the Agricultural Census data for 1971 and 1981 for analysing the changes in the ownership and operational holdings, and in the tenancy pattern in the Punjab for the last three decades. They show that the distribution of ownership holdings was extremely skewed in 1971-72. The average size of ownership holding of the numerically predominant smallest size class (less than one hectare) was so small that they could not be meaningfully regarded as agricultural holdings. Not surprisingly, over the period 1971-81, the average size of operational holding increased, as most marginal holdings presumably driven by the compulsions of 'tractor technology', either leased in and enlarged their operational holding size, or leased out. 'Pure tenants' were virtually eased out, and 'owner-cum-tenants' have emerged as powerful participants in the lease market. In brief, Punjab presented an interesting picture of institutional changes: population-induced decline in the average size of ownership holdings; technology-induced rise in the size of operational holdings; a decline in pure tenancy and a rise in owner-cum-tenants.

Two papers analysed the All India Rural Debt and Investment Survey (AIRDIS) data for 1971-72 and 1981-82. D. Narayana has shown that the concentration dropped marginally in many States. The composition of rural assets remained relatively stable, the only interesting change being a systematic decline in the livestock component, and a marginal rise in the durable household assets.

L. N. Dutta and S. P. Mishra computed four indices of inequality (the Gini ratio, standard deviation of logs, Kuznet's Index and Theil's Index) for the AIRDIS data which showed mildly declining values over the 1970s. Despite the marginal reduction, they rightly conclude that the overall distribution in 1981 was characterised by a high degree of inequality. The lowest 50 per cent of the households claimed only eight per cent of the assets in 1981-82 as against six per cent in 1971-72.

S. C. Sarkar and Arunendu Mukhopadhyay used 26th and 37th Rounds of NSS to examine the trends in inequality in non-land rural assets over the 1970s. They noted a general decline in the concentration ratio of non-land assets in almost all States, and also some diversification inasmuch as the share of livestock declined and that of non-farm machinery and durable assets increased. K. Sain and B. Bagchi reach similar conclusions based on AIRDIS data.

Several authors used one or more of the three data sources (Agricultural Census, NSS Rounds, and AIRDIS) to examine State/regionwise trends in inequality.

The AIRDIS data and the census data on land holdings were used by M. Prahladachar for a detailed analysis of the changing asset structure of cultivator households in Karnataka. An important finding of this study is that there has been a sharp decline in the concentration ratio of assets among *all rural* households from 0.62 in 1971-72 to 0.47 in 1982, largely due to a corresponding reduction in the concentration ratio of the assets of *cultivator* households (from 0.53 to 0.37). He also noted that the land holding distribution (operated area) tilted in favour of marginal holdings. Yet the computed Gini showed only an extremely small change—clearly illustrating the limitations of this inequality measure. The data base for his conclusion that the disposition of income-augmenting non-land assets like irrigation, livestock, etc., exercised a moderating influence on the highly skewed land distribution in Karnataka appears to be too fragile.

For the first time we get a clear (though disturbing) picture of the north-eastern region over the 1970s from the paper by N. Venkata Rao and B. S. N. Reddy. Land reform legislation was passed in Assam, Manipur and Tripura, but not in Nagaland, Mizoram, Sikkim, Arunachal Pradesh and Meghalaya. However, legislation was effective only in Tripura where the Gini ratio of land concentration fell appreciably, but not in Manipur and Tripura. Of the States where no legislation was passed, in Nagaland there was a substantial reduction in the Gini ratio, a marginal reduction in Mizoram and Sikkim, but a large increase in Arunachal Pradesh and Meghalaya. Average size of large farms (more than ten hectares) increased in Assam, Meghalaya and Sikkim at the expense of the small holdings. It is well known that in the tribal areas the main form of land ownership is communal, but the authors note a sharp rise in the tendency towards privatisation of community land, and the emergence of 'agricultural labour' class in many tribal tracts. They plead for stemming this tendency for privatisation, and argue the case for co-operative/community approach if poverty is to be contained in the region. That institutional factors are emerging as serious barriers in the north-eastern tribal tract is obvious enough, independently of their questionable regression equations.

The eastern region is also well known for the institutional barriers—a high degree of inequality in land distribution, share cropping, etc. The papers by Madhusudan Ghosh, D. P. Pal and G. P. Pal (West Bengal), Jagdish Prasad (Bihar), S. C. Patnaik (Orissa) document the steadily worsening situa-

ation with respect to the average size of operational holdings. The increasing marginalisation of operational holdings due to the demographic factor could hardly be contained by the meagre surplus land allocated following the ceiling laws. All the authors question the small proportion of land under tenancy as revealed by the censuses, and point out to the prevailing reality of fictitious land transfers, concealed tenancy, and caution against uncritical assessment of Agricultural Census data that show structural changes (especially a decline in the Gini ratio). That the published census data on tenancy in the eastern region is suspect is also confirmed by many field studies.⁵

Narayani Shrivastava examined Madhya Pradesh Agricultural Census data (1970-71, 1975-76, 1980-81) which showed a substantial rise in the number of small holdings, and a fall in the average size of operational holdings.

C. Arputharaj and E. C. Rajayan's paper used census data for 1970-71 and 1975-76 to show that in the Coimbatore district of Tamil Nadu, land distribution was tilting towards medium farmers but not towards small farmers, and that the average size of operational holdings declined in all the size-groups. Their village survey data showed that partitioning of property was the main factor behind the above tendencies.

Two authors examined the situation in the agriculturally prosperous State of Haryana. D. D. Gupta and V. K. Singh analysed Agricultural Census data (1970-71, 1975-76 and 1980-81) separately for the fast growing region of Haryana and the lagging region. They show that while in the agriculturally dynamic region marginal holdings improved their operational area by leasing in, or sold their land or opted out of farming to take up non-farming activities, in the under-developed region, small farms (number and area) registered an upward trend. These findings are also corroborated by a paper based on village surveys (see paper by C. B. Singh *et al.* discussed below). It is also shown that 98 per cent of the operated area was 'wholly owned and self-occupied', tenancy having been relegated to the background. Their findings seem to suggest that the growing 'landlessness' in the developed region of Haryana is of a different variety from that observed, *e.g.*, in the eastern region.⁶ Growth of non-farm activities and all-round dynamism have induced marginal holdings in the developed pockets to opt out of farming. The second paper on Haryana by S. S. Guliani and Dalbir Singh contained a districtwise analysis. In almost all districts they show that the average operational holding size declined.

The paper by B. D. Bhole and S. S. Marawar used districtwise time-series data on rural assets published by the Maharashtra Government to show such details as the decline in the wooden plough and the rise of iron plough, rise in milch animals, etc. No significant, policy relevant conclusions were drawn.

5. See, *e.g.*, Kripa Shankar: Concealed Tenancy and Share Cropping in Eastern Uttar Pradesh, Concept Publishing Company, New Delhi, 1980.

6. This point was also stressed by Inderjit Singh; see his paper on "Small Farmers and the Landless in South Asia", prepared for the World Bank Seminar on Rural Poverty in India, May 1985.

Finally, one contribution dealt with the changes in the operational holding distribution of exclusively rubber cultivators in Kerala. Viju Ipe C. showed that the distribution of operational holdings in the rubber tract tilted in favour of small holders. He offered many reasons for this shift but these were not tested empirically. Recognising that labour cost is high in rubber cultivation, the recent change rendering holdings of the size-group less than ten hectares outside the purview of the Plantation Labour Act is obviously an important driving force for land distribution to tilt in favour of 'small', but how much of this tilt is genuine (and not merely on paper to pay low wages and reduce labour cost) is not known.

Before turning to studies based on village studies, reference may be made to regression results estimated by many authors. These, in general, are attempts to capture the manner in which (a) the changing Gini ratios affected labour per unit of output and (b) how agricultural productivity (yield per hectare) was affected, *inter alia*, by changes in Gini ratio. For example, some scholars hypothesised that large farms under-utilise land due to shortage of family labour (why can't they mechanise?), and small farms under-utilise family labour due to scarcity of land, and therefore a reduction in the degree of inequality and also in the average size of holding would generate additional employment. I am not at all convinced about the logical basis of this hypothesis, especially in the context of rapidly changing technology, and in the ratio of the price of biological sources of energy to mechanical sources. Granting that this hypothesis is valid and worth investigating, equations with productivity per hectare or labour input per unit of output as dependent variables, and land Gini, irrigation ratio and fertiliser use as independent variables, may not clinch the issue, especially because most authors used cross-section districtwise data to capture these relationships. The levels of Gini ratios at a historically given point in time in different districts are not necessarily good indicators for capturing the *changing* labour-absorbing potential of agriculture in response to *changing* Gini ratios. In my opinion, the postulated dynamic relationships can hardly be captured by cross-section data.⁷ It must be stressed that even if the relevant variables were statistically significant, the case is not proven inasmuch as the estimated equations lack sound theoretical basis. It would have been useful to look at changes in land Gini in the *same* district at two or more points in time, and investigate its effects, *ceteris paribus*, on productivity, labour absorption, etc., in *that* district.

(ii) *Studies Based on Village Surveys*

R. Rajagopalan and B. Anuradha resurveyed 150 farms in 1984-85 spread over 15 villages in Thanjavur district of Tamil Nadu, which were originally surveyed in 1967-68 as part of farm management survey. Over 17 years, seventeen out of 150 farmers migrated out of their villages. The

7. For a discussion of the pitfalls in using cross-section data for capturing dynamic relations, see T. N. Srinivasan's paper in John W. Mellor and Gunvant M. Desai (Eds.): *Agricultural Change and Rural Poverty*, Oxford University Press, Delhi, 1986.

remaining 133 farms were analysed by the authors. Classifying the sample into 'owners', 'owner-cum-tenants' and 'pure tenants', the changes noted by the authors can be summarised in the following transition matrix:

Category	First survey (1967-68)	Second survey (1984-85)		
		Owners	Owner-cum-tenants	Tenants
Owners	72	63	7	2
Owner-cum-tenants	36	32	2	2
Tenants	25	15	10	--
Total	133	110	19	4

Source: Computed from Rajagopalan and Anuradha.

Quite clearly, the number of tenants and the extent of tenancy had declined, as was also noted by Andre Beteille.⁸ The authors also noted that the size of operational holding had shrunk both for owners and for owner-cum-tenants. One can only wish they had examined other relevant aspects such as changes in labour use and labour relations, real wages, etc.

The second interesting micro study is that of N. A. Gadre *et al.* who tracked down the changes in the ownership pattern of *all* households in one village in Vidarbha region of Maharashtra. They compared the changes that occurred in two sub-periods, *i.e.*, 1947-48 till 1972-73, and from 1972-73 to 1986-87. During the first period the population of the village grew by 38 per cent and the number of holdings by 81 per cent. In the second period, the population grew by 48 per cent, but the number of holdings grew sharply by 272 per cent. As a consequence, the average size of holding fell from 7.1 ha. in 1947-48 to 3.9 ha. in 1972-73 and finally to 1.95 ha. in 1986-87. Two prime-movers behind these changes were sale of land and inheritance. In all likelihood, they point out that the slow-growing, backward Vidarbha region is heading towards a region of marginal holdings.

By contrast, S. N. Tilekar *et al.*'s resurvey of villages in the developed Western Maharashtra originally surveyed in 1971-72 (for farm management survey), showed little sale and purchase transaction, but a decline in the average size of holding due to inheritance. They observed that while the revenue records showed a decline in the average size of holding, many families were cultivating the land as one undivided piece as before, presumably to maintain a technological optimum. They noticed no significant changes in the real value of farm assets. Milch animals per farm increased on small farms presumably due to government assistance.

8. See Andre Beteille: *Studies in Agrarian Social Structure*, Oxford University Press, Delhi, 1983.

Yet another micro study in the Western Maharashtra region by S. D. Suryawanshi and P. G. Desale looked at the changes in the asset structure of households before and after the introduction of irrigation. They show that the value of several assets (especially land and buildings) rose sharply following irrigation facilities.

In the slow-growing, backward, predominantly rainfed Bundelkhand region in Madhya Pradesh, H. C. Sodhiya found that the role of irrigation as a new 'income-augmenting' asset was very limited.

C. B. Singh *et al.* showed that in Karnal district in Haryana, the National Dairy Research Institute's efforts led to successful transfer of dairy farming technology. Non-farm incomes rose impressively. While the rapid spread of non-farm activities in Haryana is well documented, it is of course difficult to accept their conclusion that a sharp upward mobility of farmers over the period 1977-78 to 1984-85 occurred as the finding was not based on panel data.

A. Pushpavalli's paper based on micro data from villages in North Arcot district of Tamil Nadu suggests that even over a short span of time (1981-82-1983-84) owned as well as operational holding area of large farmers fell and those of small and medium farmers increased, so that seven out of 44 sample farmers improved their position. Sample size as well as time span covered is too thin to accept her findings as definitive even for those villages.

Dalbir Singh Sarkaria's paper examined Amritsar village data and confirmed (a) a decline in operational holding size, (b) an increase in cropping intensity, especially on small farms and (c) a trend towards a rise in milch animals and buildings in the rural asset portfolio.

There are four studies which explored the extent of rural inequalities at a point in time. Jagdish Chand noted that there were significant inter-village differences in the inequality of rural assets in Himachal Pradesh villages, but offered no clues for the observed differences. H. R. Sharma *et al.*, based on sample data from three villages, showed that the income from all sources (farm plus dairy) was less unequally distributed than income from farming alone. T. S. Chahal noted 'gross inequality' in the distribution of ownership holdings in Amritsar district. As was also noted by Sandhu and Grewal, leasing in land was the strategy resorted by small holdings for achieving a viable size of operational holding.

Kripa Shankar's East Uttar Pradesh data for 1983-84 showed that the average income of the largest holding size was 12 times that of the small holding size. No efforts were made to compute concentration ratio.

Three papers explored the size distribution of assets of households before and after the introduction of IRDP. R. K. Panda's paper on Orissa villages shows that the asset value of agricultural labourers and small farmers rose proportionately more than that of large farmers. But the net income position is not known; nor does Panda's study have a control group of non-beneficiaries. V. T. Raju *et al.* also concluded that in Bapatla taluka in the Guntur district of Andhra Pradesh, IRDP intervention resulted in

the improvement of asset values of the lowest income groups and that the Gini ratio of asset values declined. Milch cattle was the prime-mover in the improvement of asset values of poor households. There was no control group. In Kerala, surprisingly enough, A. C. Kutty Krishnan found that the impact of IRDP intervention on the asset position of agricultural labour households was very limited largely due to 'rampant corruption'.

III

CHANGES IN TENURIAL RELATIONS, LABOUR ABSORPTION AND RELATED ISSUES

A few studies reviewed the above-mentioned diverse patterns emerging in different parts of the country. The decline of 'pure tenants' and the emergence of 'owner-cum-tenants' in the Punjab-Haryana region and in the green revolution tract in Tamil Nadu was noted. Also, as the average size of ownership holdings fell as a result of demographic pressures, most small holders either improved their operational holding size by leasing in, or leased out, or sold and opted out of farming to take up more profitable non-farming activities. Technological changes in turn induced institutional changes *a la* Hayami and Ruttan,⁹ so that the operational holding size did not drop to non-viable levels. At the same time, the 'pure tenant'—the weakest layer in the institutional ladder—was crushed under the weighty forces of technological dynamism. By contrast, in the stagnating eastern region while official (census) data showed a decline in the area under tenancy, virtually all contributors documented the prevalence of concealed tenancy, share-cropping and a rapid decline in the average size of both ownership and operational holdings—all due to demographic pressures. Quite clearly, this region did not yet have access to the 'escape routes' available in the Punjab-Haryana region—agricultural dynamism and a rapid growth of non-farm employment—so that both the average holding size and tenurial relations deteriorated. Government policy in the form of distribution of 'surplus' land was so insufficient and ineffective that it could not stem the tide of marginalisation of peasants and growing landlessness.

The scenario presented above is more or less confirmed by some of the papers which dealt exclusively or largely with the tenancy and labour absorption aspects. C. S. Murty noted that in the delta villages in Andhra Pradesh technological changes did not lead to a decline in the magnitude of tenancy. However, the condition of owner-cum-tenants improved while that of pure tenants deteriorated. Most large landowners exploited the pure tenants via onerous labour contracts (*i.e.*, small parcels of land were leased out to them on the condition of payment of rent in the form of 'labour' during the peak season). There was no net positive change in the land holding pattern, so that the overall economic position of small holdings may

9. See Yujiro Hayami and Vernon W. Ruttan: *Agricultural Development: An International Perspective*, Johns Hopkins University Press, Baltimore, 1985.

have deteriorated in the context of growing demographic pressures and inflation.

Based on data collected from villages spread over nine out of 12 districts in the Punjab, I.S. Chatha and Joginder Singh also corroborate the decline in pure tenants, and leasing out by many small landowners. In leasing operations, they noted that the leased-in land per lessee was positively associated with the size of holding owned by the lessee. In the prosperous Hisar district (Haryana) the paper by K. N. Rai *et al.* noted the same phenomenon of small farmers leasing in to make their operational holdings viable. They also pointed out that cash rent system dominated over crop sharing system which was fast disappearing.

By contrast in the agro-climatically high risk regions in Madhya Pradesh, Dinesh K. Marothia found that the form of tenancy was shifting towards crop sharing along with sharing of input costs. It is suggested that such a system was an optimal arrangement for both landowners and tenants in the context of higher risks associated with new technology in this region: a finding supported by the recent theoretical literature on crop sharing. Here also, pure tenants were on the decline.

That the tenancy ratio thrown up by the Agricultural Census in Karnataka is suspect is suggested by the paper by R. V. Dadibhavi *et al.* who, on the basis of complete enumeration of all households in a Belgaum village, found the prevalence of concealed tenancy under oral agreements for short periods; they also noted that 70 per cent of the tenancy was share-cropping. In view of the unreliability of census data on tenancy suggested by so many papers, the decline in tenancy ratio noted by R. K. Pandey and Shanti Sarup on the basis of Agricultural Census data need not be taken seriously.

Two papers looked at the impact of surplus land redistribution to tenants in Karnataka and East Uttar Pradesh. In the Dharwad district in Karnataka, the paper by Y. L. Inamdar and S. G. Gambhir showed that conversion of tenants into owners by conferring land ownership did result in a reduction of poverty of these households. But there was no impact on aggregate labour use. However, female family labour use declined, hired female labour use increased, and hired male labour use decreased. The second case study of sample farms in Banda district in East Uttar Pradesh by M. P. Azad *et al.* showed that surplus land distribution mostly to scheduled caste tenants led to all-round improvement—in their capital asset base, income and productivity per hectare. The average size of their operational holdings (as tenants) was 1.98 ha. before allotment of land. This declined to 1.46 ha. after land was allotted. Despite this drop in their operational holdings size, surplus land distribution improved productivity via a rise in cropping intensity.

A few papers also examined the labour absorption and emerging employer-employee relationships. K. V. Narayana and N. L. Murthy examined these aspects in the Warangal district of Andhra Pradesh. Their paper documents the continuance of 'annual farm servant' institution (a kind of bonded labour) especially in villages with markedly feudal land relations. In some villages, however, surplus land was distributed to them which com-

pletely transformed their conditions for the better. Also, the conditions of farm labourers (wage rates in particular) were decidedly better in villages close to the urban centres—presumably because over-exploitation of farm labourers might induce them to migrate to the urban centres.

Gender discrimination in the labour market was noted in the paper by G. Subramaniam and V. Nirmala who showed that in the cotton fields in the Madurai district of Tamil Nadu, the demand for female labour was quite high, precisely because their wage rate was just about half of the male labour. While their plea for encouraging labour intensive crops like cotton is well taken, it is surprising that they do not argue for improving wage rates for female labour. Rajendra Singh also reported discrimination against females in wage rates and employment in eastern Uttar Pradesh. The manner in which migrant workers in the Punjab are discriminated and exploited in every possible way (especially beating down the wage rate) is described in the paper by M. S. Dhariwal *et al.*

In their paper based on data from nine villages of Sreeramsagar Command Area of Andhra Pradesh, Mohd. Iqbal Ali and T. Papi Reddy noted significant variations in the operationwise labour absorption as between head-reach, middle-reach and tail-reach areas, and as between different villages, but tested no hypotheses for explaining the observed variation. Based on a sample of 50 farms in Akola (a dry region in Maharashtra), S. L. Deshpande suggested in a highly speculative tone that sequence farming has considerable potential for improving the value of the product per unit of labour.

Finally, V. S. Satyapriya attempts an econometric exercise on 300 farms from eight zones in Karnataka to explain the variations in the intensity of labour use (labour hours per hectare of gross cropped area). His first basic finding is that the intensity of labour use is positively related to output per hectare of gross cropped area. His second finding is that the labour intensity is inversely related to the size of holding. Given these two familiar relationships, the rest of the relationships explored are axiomatic (almost definitional) and hence uninteresting. The estimated equations confirm the well known finding that small farms use higher levels of labour input despite low labour productivity essentially because they are interested in maximising output per hectare. With mounting demographic pressures on land, this phenomenon may be expected to continue.

IV

INDEBTEDNESS

M. Satyanarayana compares AIRDIS data for 1972-73 and 1981-82. His findings are that (a) the asset base averaged for *all* households improved; (b) the debt-asset ratio increased in Karnataka, Madhya Pradesh, Orissa, Punjab and West Bengal; (c) the debt liability is high in Haryana; (d) the concentration ratio of assets remained more or less stable; and (e) the proportion of capital expenditure to total expenditure on farm business by cultivators and non-farm business by non-cultivators, averaged for all house-

holds, increased substantially. It is not known whether the figures are deflated. Because the cash dues analysis was not conducted by the size of holdings/assets, it is difficult to draw any distributional implications.

Based on data collected from Central Co-operative Bank, Raipur (Madhya Pradesh) for five years (1981-85), S. K. Sharma concluded that the recovery rate improved for large farmers, and that scheduled caste farmers had higher outstanding loans. The number of scheduled caste/tribe debtors also increased over the period. With the same data, the author could have examined the changes in the inequality of credit distribution at the micro level.

S. S. Sangwan used secondary data on term loans advanced over time by commercial banks by size class of holdings in order to examine whether there has been any decline in the role of inequality in land distribution in determining credit distribution. His conclusions are that the size of holding continues to be the dominant determinant of credit disbursed. For each size class, the share in term loans is almost proportional to the respective share in the operated area. While this is the finding from the regression equation, Sangwan's own tabular analysis shows some improvement in the share of marginal holdings in outstanding credit over time.

V

CONCLUDING REMARKS AND ISSUES FOR DISCUSSION

What general conclusions can be drawn from the above papers?

(1) Over the three decades since Independence, population growth in India outstripped the effective additions to the supply of land. (2) The absolute number and proportion of large farmers, and their share in total area operated declined in most States. (3) At the same time, the number and proportion of marginal holdings rose substantially, but their share in area did not increase, or increased only marginally. (4) The Gini ratio of operational holdings fell in many States. But the Gini ratio of *all* rural assets remained more or less stable. (5) Average size of operational holding of all size-groups declined (except in some fast-growing, dynamic regions); landlessness has increased; and agricultural wage-labour households have grown proportionately more than all rural households. (6) Tenurial relations presumably worsened in the eastern States. All these tendencies accelerated during the 1970s in most parts of the country. Two important consequences of the above changes in the demographic scene and agrarian structure are: avenues for self-employment have declined, and casual labour employment has increased.

Industrialisation and growth of secondary and tertiary sectors have been unable to absorb more than a fraction of the additions to the labour force. Too large a growth in labour force coupled with a slow growth in the demand for labour in rural and urban areas prevented any growth in real wages of labour which remained more or less stable for three decades.¹⁰ Owing to

10. This aspect has not been investigated by the contributors, but there is independent evidence. See G. Papenek, "Poverty in India", September 1986 (mimeo.).

slow growth of urban industry, the scope for migration continues to be limited. With the exception of the situation in a few fast growing regions, the Indian rural community structure represents an archetypical case of increasing demographic pressures on limited and non-expanding land leading to landlessness in the absence of any redistributive institutional change.

Reduced access to land need not necessarily result in increasing misery and poverty, if 'escape routes' exist. For example, in India rapid expansion of agricultural output per hectare and non-farm activities provided the escape route in the Punjab-Haryana region; in China redistributive institutional measures ensured access to land though not in improving productivity or living standards (some scholars maintain that this was a classic case of 'equal sharing of misery'); in Korea and Taiwan an extraordinarily rapid rate of industrialisation and growth of the urban sector absorbed labour and stemmed the adverse effects of population growth (indeed real wages rose in these countries). In the ultimate analysis, policies aimed at increasing the demand for labour in the short run, and slowing the growth of labour supply in the long run, are absolutely essential for India. No one will dispute that India must vigorously pursue the policy of reducing population growth. But even a policy that would have a major impact would need at least 15-25 years for it to slow the growth in the labour force significantly. During this 'transition stage', what kind of 'escape routes' exist for India ?

Historical experience in South Asia mentioned above suggests the following escape routes:

Curative

- (a) redistribution of land so as to ensure its access to the poor on community ownership of land;
- (b) rapid, labour intensive agricultural growth, commercialisation and spread of rural non-farm activities;
- (c) rapid industrialisation and urbanisation;
- (d) ensuring access to non-land assets (livestock, etc.).

Ameliorative

- (e) ensuring access to basic needs (food, shelter, clothing) and to items of social consumption (education and health);
- (f) enforcing minimum wages and social security;
- (g) rural works programmes.

All these routes have been tried in different States in India and there is wide variation in their effectiveness across the country. In regions where none of the 'escape routes' have been pursued vigorously by state policy, increasing misery and poverty appear to be inevitable—Bihar strikes one as a classic example of this scenario.

1. The first issue for discussion could be: are there any other escape routes which may be particularly relevant to the Indian situation ?

2. It is indisputable that the first route of a radical redistribution of land has been virtually relegated to the background in the government's agenda: the deplorable lacunae in the land ceiling legislation provides ample evidence of a lack of concern for this curative reform. One particular view strongly held in India is that unless this structural reform is carried out, all other routes and direct interventions are unlikely to succeed. Two issues for consideration are: (a) is this position corroborated by field experience in India and other South Asian countries widely enough to be accepted as a 'theorem'? and (b) while not questioning the need for structural reform, is it adequate (sufficient) to solve the problem of explosive growth of landless unemployed by the turn of the century? (Discussion may focus on such issues as: would such a reform provide a viable long run solution, or only postpone the 'day of reckoning'?; its implications for growth of output, adoption of technology etc.) How feasible is such a structural reform especially in those regions where it is most desirable such as eastern India? (let us consider the arguments such as: physically there is not enough land to go around; economically size of holdings will decline further; politically the power of landed interests has grown dramatically over the three decades rendering such reforms even more unlikely, etc.).

3. A classic survival mechanism is increase in participation rates and number of days of employment. Given the existing structure, to what extent can the second and third routes—rapid agricultural growth, commercialisation, and spread of rural non-farm activities and rapid industrialisation—provide a satisfactory solution to the impasse in the short run by providing additional man days of employment? Labour input per hectare in India is substantially lower and labour input per unit of output higher than in Japan during comparable periods of development.¹¹ Bearing this in mind, the Group may consider the prospects for productive labour absorption via quick regional diffusion of new seed varieties. What are the impediments to increased labour use in agriculture?

4. Granting that the numbers of the landless poor are likely to swell by the turn of the century, in what respects do the prevailing ameliorative measures—labour laws, provision of basic needs, public works, social consumption—need to be reshaped to effectively improve the welfare of this particular class?

5. Finally, there is evidence of the poor losing control over even their existing resources via privatisation of community land, and rapid decline in other common property resources; and over-use of common resources (through cutting trees, over-grazing, etc.) causing long-term environmental damage as well as endangering their own *future* livelihoods. Evidence contained in the reviewed papers suggests that among Indian rural communities tribals are the worst hit by these processes. Discussion may focus on the relative roles of demographic and poverty-induced, and of market-induced and policy-induced destruction of existing sources of livelihoods for the poor, and on appropriate corrective policies.

11. Literature on this aspect is extensive. See A. R. Khan and Eddy Lee: *The Extension of Productive Employment in Agriculture*, International Labour Office, Geneva, 1981.