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IMPACT OF THE NEW TECHNOLOGY ON LAND STRUCTURE
THROUGH CHANGES IN THE LEASE MARKET—
A STUDY IN A BENGAL DISTRICT

M. G. Ghosh*

I

Following the introduction of the new technology, the lease market in agricultural lands in many parts of the country had undergone a change. Due to photo-insensitive character of the new varieties of paddy, the cultivation of this crop had become a new phenomenon in the summer season. The greater availability of irrigation water in this season had made possible to bring more lands under the cultivation of paddy. The fact is that a greater part of these new lands had entered into the lease market during this season, and with the increase in the area under tenancy many farmers of different size classes of holding had been participating in the lease market either as a 'lessee' or as a 'lessor' depending on the nature and extent of facilities available for improved farming. This had thus brought about a change in the concentration of control over land, thereby bringing in a change in the system of economic inequalities. The traditional tenure arrangements and lease terms had also tended to terminate gradually and these were being replaced by new arrangements centering round the new enterprise. In fact, there was a noticeable shift from share-cropping to a fixed rental system. Accompanying these changes, the leases were getting conspicuously shortened, and the land was being leased out separately for the summer crop—either given over to new tenants or treated as a separate lease even with the old.

Our attempt in this paper would be to analyse these changes in the functioning of the lease market, that is, (a) who leases from whom or, in other words, the size-distribution of the lessors and the lessees; (b) the motivation and preferences in renting of land; and (c) the variations in terms and conditions that accompany the leases, particularly the relative importance of share-cropping vis-a-vis tenancy contract with a fixed rent basis. Lastly, we shall also present observations in regard to the changes in the land structure in terms of the size class distribution of operational holdings for two points of time, *viz.*, pre-green revolution period and post-green revolution period. While analysing these questions, we shall note the important differences among the different types of irrigation facilities in our survey villages.

Our study is confined to two villages, namely, Sarul and Khargram in the district of Burdwan, West Bengal. The field level data were collected by the Agro-Economic Research Centre, Visva-Bharati and also by the author himself for his Ph.D. thesis. All the resident farming households were covered under the study. The analysis covered the period between 1965-66, *i.e.*, pre-green revolution period and 1975-76, post-green revolution period.

* Agro-Economic Research Centre, Visva-Bharati, Santiniketan.
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II

Salient Features of the Sample Villages

The two villages were fairly typical of the delta villages which had reasonably good access to resources for growing high-yielding varieties (HYVs) of paddy, particularly in the first village where the fields were well drained and the irrigation system was dependable. The necessary agricultural inputs, such as new seeds, fertilizers, pesticides were available from the block headquarters, situated very near to these villages.

In the first village (Sarul) almost cent per cent of the area in the *kharif* season and more than 90 per cent in the summer season were irrigated in 1975-76. The source of irrigation was government canal. In the second village (Khargram), 68 per cent in the *kharif* season and 27 per cent in the summer season were irrigated. The principal sources of irrigation were river and canal in the *kharif* season and shallow tubewells with pumpsets in the summer season.

The area under summer paddy in the first village increased from 49.20 hectares in 1967-68, a year after the introduction of the new technology, to 169.85 hectares in 1975-76, which formed more than 80 per cent of total cultivated land in this village. The availability of sufficient irrigation water from canals had helped all the categories of farmers to bring more land under paddy during this season. On the other hand, in the second village, the area under summer paddy was 8.56 hectares in 1967-68 which increased to 48.77 hectares in 1975-76, forming only 21 per cent of the cultivated area. The limiting factor for such a low proportion of area under summer paddy in this village was the non-availability of canal irrigation water. Shallow tubewells with pumpsets were the only source of irrigation in this season. These irrigation sets were owned and operated privately.

The intensity of cropping increased significantly after the introduction of high-yielding paddy in both the villages (1.90 in the first and 1.43 in the second village in 1975-76). Paddy followed by paddy was the rotation pattern which was most extensively followed on nearly all the farms in these villages. Thus paddy was the main crop forming 96 per cent of the cropped area in the first village and 85 per cent in the second village. HYVs of paddy had been grown in both the seasons since 1966-67 in these two villages. However, these were more commonly planted in the summer season than during the *kharif* season. Among these two villages, the first village made the greatest switch over to HYVs in the *kharif* season with more than 50 per cent of the area under HYV paddy as against 29 per cent in the second village. In the summer season cent per cent of the paddy area was planted to high-yielding seeds in both the villages, however, the area under paddy per farm was much higher in the former village than in the latter village.

III

Extent and Pattern of Tenancy

Before the advent of the high-yielding seeds of paddy, renting of lands was usually contracted for the whole year and the same contracts even continued for some years with the same tenants. But since the introduction of paddy cultivation in the summer season, the period of lease had conspicuously shortened. Leases were being contracted for each season and for each crop and the new terms and conditions were fixed for each contract. The tenants were not necessarily the same old tenants.

In our study villages, the entire leased-in area during the *khariif* season belonged to the absentee owners. The standard crop sharing arrangement in the proportion of 50:50 continued during the period of our study. However, in the summer season, new arrangements were made in each year and new terms and conditions were fixed even with the same old tenant.

(a) *Khariif season*:—It is revealed from Table I that in the *khariif* season, land under tenancy formed 20 per cent in the first village (Sarul) and 26 per cent in the second village (Khargram). The distribution of rented-in land by size class of operational holdings shows that the small farmers (1-2 ha.) and the marginal farmers (upto 1 ha.) had the largest share in it, occupying together nearly 70 per cent in the former village and 62 per cent in the latter village. The rest was held mainly by the lower middle size class of farmers. It is further revealed that the proportion of leased-in land to the total operated land was more than 40 per cent among the small and marginal farmers in the first village. The corresponding figures for the second village were 31 per cent and 52 per cent among the marginal farmers and small farmers respectively.

TABLE I—DISTRIBUTION OF OPERATED AREA AND LEASED-IN AREA IN THE KHARIF SEASON BY SIZE CLASS OF OPERATED AREA

| Size class of operated area (hectare) | Number of holdings | Owned land | Leased-in land | | Total operated land | | Percentage of leased-in land |
|---------------------------------------|--------------------|------------|----------------|-------------------------|---------------------|-------------------------|------------------------------|
| | | | Area (hectare) | Percentage distribution | Area (hectare) | Percentage distribution | |
| Village Sarul | | | | | | | |
| 0·01-1·00 | .. 36 | 11·46 | 7·81 | 19·07 | 19·27 | 9·38 | 40·53 |
| 1·01-2·00 | .. 31 | 26·67 | 20·23 | 49·42 | 46·90 | 22·84 | 43·13 |
| 2·01-4·00 | .. 20 | 52·41 | 8·85 | 21·62 | 61·26 | 29·83 | 14·45 |
| 4·01-6·00 | .. 10 | 43·71 | 4·05 | 9·89 | 47·76 | 23·25 | 8·48 |
| 6·01 and above | .. 4 | 30·20 | — | — | 30·20 | 14·70 | — |
| Total | .. 101 | 164·45 | 40·94 | 100·00 | 205·39 | 100·00 | 19·93 |
| Village Khargram | | | | | | | |
| 0·01-1·00 | .. 33 | 16·92 | 7·73 | 12·85 | 24·65 | 10·56 | 31·36 |
| 1·01-2·00 | .. 37 | 27·24 | 29·50 | 49·02 | 56·74 | 24·32 | 51·99 |
| 2·01-4·00 | .. 24 | 50·82 | 20·00 | 33·23 | 70·82 | 30·35 | 28·24 |
| 4·01-6·00 | .. 10 | 50·82 | 2·95 | 4·90 | 53·77 | 23·04 | 5·49 |
| 6·01 and above | .. 3 | 27·36 | — | — | 27·36 | 11·73 | — |
| Total | .. 107 | 173·16 | 60·18 | 100·00 | 233·34 | 100·00 | 25·79 |

(b) *Summer season*.—Tenancy in the summer season is a post-green revolution phenomenon. The area under tenancy simultaneously increased with the increase in the area under summer paddy. Data relating to the distribution of leased-in and leased-out land by size class of operated area for the sample villages are presented in Tables II to V.

TABLE II—DISTRIBUTION OF OPERATED AREA AND LEASED-IN AREA IN THE SUMMER SEASON BY SIZE CLASS OF OPERATIONAL HOLDINGS: VILLAGE SARUL

| 1967-68 | | | | | | |
|---|---|----------------|-------------------------|-------------------------------|------------------------------|--|
| Size class of operated area (kharif season) (hectare) | Owned land cultivated by self (hectare) | Leased-in-land | | Total operated area (hectare) | Percentage of leased-in area | |
| | | Area (hectare) | Percentage distribution | | | |
| 0.01-1.00 | 2.96 | 1.47 | 22.51 | 4.43 | 33.18 | |
| 1.01-2.00 | 7.02 | 3.68 | 56.36 | 10.70 | 34.39 | |
| 2.01-4.00 | 12.66 | 1.38 | 21.13 | 14.04 | 9.83 | |
| 4.01-6.00 | 11.07 | — | — | 11.07 | — | |
| 6.01 and above | 8.96 | — | — | 8.96 | — | |
| Total | 42.67 | 6.53 | 100.00 | 49.20 | 13.27 | |
| 1975-76 | | | | | | |
| 0.01-1.00 | 9.57 | 15.41 | 29.42 | 24.98 | 61.69 | |
| 1.01-2.00 | 22.28 | 28.55 | 54.51 | 50.83 | 56.17 | |
| 2.01-4.00 | 42.78 | 8.42 | 16.07 | 51.20 | 16.45 | |
| 4.01-6.00 | 31.10 | — | — | 31.10 | — | |
| 6.01 and above | 11.74 | — | — | 11.74 | — | |
| Total | 117.47 | 52.38 | 100.0 | 169.85 | 30.84 | |

TABLE III—DISTRIBUTION OF LEASED-OUT LAND IN THE SUMMER SEASON IN 1975-76: VILLAGE SARUL

| Size class of operated area (kharif season) (hectare) | Owned land (hectare) | Leased-out land | | Per cent leased out |
|---|----------------------|-----------------|-------------------------|---------------------|
| | | Area (hectare) | Percentage distribution | |
| 0.01-1.00 | 9.57 | — | — | — |
| 1.01-2.00 | 22.28 | — | — | — |
| 2.01-4.00 | 43.78 | 1.00 | 5.50 | 2.28 |
| 4.01-6.00 | 36.52 | 5.42 | 29.81 | 14.84 |
| 6.01 and above | 23.50 | 11.76 | 64.69 | 50.04 |
| Total | 135.65 | 18.18 | 100.00 | 13.40 |

TABLE IV—DISTRIBUTION OF OPERATED AREA AND LEASED-IN AREA IN THE SUMMER SEASON BY SIZE CLASS OF OPERATIONAL HOLDINGS: VILLAGE KHARGRAM

| Size class of operated area (<i>kharif</i> season) (hectare) | Owned land cultivated by self (hectare) | Leased-in land | | Total operated area (hectare) | Percentage of leased-in area |
|---|---|----------------|-------------------------|-------------------------------|------------------------------|
| | | Area (hectare) | Percentage distribution | | |
| 1967-68 | | | | | |
| 0·01-1·00 .. | 0·30 | 0·08 | 13·79 | 0·38 | 21·05 |
| 1·01-2·00 .. | 0·55 | 0·13 | 22·41 | 0·68 | 19·12 |
| 2·01-4·00 .. | 2·13 | 0·17 | 29·32 | 2·30 | 7·39 |
| 4·01-6·00 .. | 3·14 | 0·20 | 34·48 | 3·34 | 5·99 |
| 6·01 and above .. | 1·86 | — | — | 1·86 | — |
| Total .. | 7·98 | 0·58 | 100·00 | 8·56 | 6·78 |
| 1975-76 | | | | | |
| 0·01-1·00 .. | 1·14 | — | — | 1·14 | — |
| 1·01-2·00 .. | 2·53 | — | — | 2·53 | — |
| 2·01-4·00 .. | 7·28 | 3·98 | 23·32 | 11·26 | 33·35 |
| 4·01-6·00 .. | 12·47 | 9·46 | 55·42 | 21·93 | 43·14 |
| 6·01 and above .. | 8·28 | 3·63 | 21·26 | 11·91 | 30·48 |
| Total .. | 31·70 | 17·07 | 100·00 | 48·77 | 35·00 |

TABLE V—DISTRIBUTION OF LEASED-OUT LAND IN THE SUMMER SEASON IN 1975-76: VILLAGE KHARGRAM

| Size class of operated area (<i>kharif</i> season) (hectare) | Owned land (hectare) | Leased-out land | | Per cent leased out |
|---|----------------------|-----------------|-------------------------|---------------------|
| | | Area (hectare) | Percentage distribution | |
| 0·01-1·00 .. | 3·07 | 1·93 | 22·55 | 62·87 |
| 1·01-2·00 .. | 5·25 | 2·72 | 31·77 | 51·81 |
| 2·01-4·00 .. | 11·19 | 3·91 | 45·68 | 34·94 |
| 4·01-6·00 .. | 12·47 | — | — | — |
| 6·01 and above .. | 8·28 | — | — | — |
| Total .. | 40·26 | 8·56 | 100·00 | 21·26 |

It is observed from Table II that in the first village the area under tenancy was 6.53 hectares in 1967-68 which formed 13.27 per cent of the total area under summer paddy. This land consisted of part of the tenanted land in the *kharif* season. In 1975-76, the area under summer paddy increased to 169.85 hectares and the area under tenancy increased to 52.38 hectares forming 31 per cent. Of these tenanted lands, 18.18 hectares of new land had entered into the lease market. The distribution of these new lands under tenancy (Table III) shows that the top size class accounted for 65 per cent of the total leased-out land. The share of the next lower size class (4-6 ha.) was 30 per cent.

The distribution of leased-in lands shows (Table II) that 79 per cent of the total leased-in land in 1967-68 was held by the small and marginal farmers. It further increased to 84 per cent in 1975-76. The rest of the leased-in land was occupied by the lower middle group. It is further revealed that the proportion of leased-in land to the total operated area was 33.18 per cent among the marginal farmers and 34.39 per cent among the small farmers in 1967-68. In 1975-76 the proportion further increased to 61.69 per cent and 56.17 per cent among the marginal and small farmers respectively.

The reason for leasing out land in this season was that the cultivation of summer paddy, particularly HYV required good husbandry practices involving greater amount of labour. Thus, there were diseconomies of scale due to supervision and management problems and the large farmers found it advantageous to lease out some portion of their land to small holders. On the other hand, the small farmers took such lands on lease to utilize their labour power which hitherto remained unemployed and thereby increasing their incomes.

In the second village we, however, observed a different situation. In this village the area under tenancy in 1967-68 was 0.58 hectare, forming only 7 per cent of the total operated land in this season. This land formed only a part of the rented land in the *kharif* season. In 1975-76, the area under summer paddy increased to 48.77 hectares, of which 17.07 hectares, forming 35 per cent were under tenancy. Of this rented land, 8.56 hectares, accounting for more than 50 per cent, came from the new lessors (Table V). These lands came from the three bottom size classes of farmers. The proportion of leased-out land formed 63 per cent among the marginal farmers, 52 per cent among the small farmers and 35 per cent among the lower middle farmers.

The distribution of leased-in land in Table IV shows that the two top size classes of farmers held as much as 77 per cent and the rest by the next lower size class of farmers. The proportion of leased-in land to the total operated land in the season varied between 30.48 per cent and 43.14 per cent among these three size classes of farmers. The small and marginal farmers who held as much as 62 per cent of total leased-in land in the *kharif* season and 36.20 per cent in the summer season in 1967-68 were squeezed out of the lease market in the summer season in 1975-76.

We have earlier observed that the only source of irrigation in the summer season was shallow tubewells which were owned by the substantial farmers. The small and marginal farmers had been cultivating paddy in this season by purchasing water from the shallow tubewell owners. But in 1974-75, the

prices of oil and other allied materials for running the pumpsets and shallow tubewells shot up. As a result, the hiring charges for irrigation went up by more than 50 per cent and the small and marginal farmers found it a highly risky venture to go in for the cultivation of summer paddy which required heavy investments. Thus they not only returned the tenanted land taken in the *kharif* season but also leased out a major portion of their owned land to the large farmers and started working as agricultural labourers during the season. On the other hand, the owners of the shallow tubewells and pumpsets who were the rich farmers took lands from the small owners on lease to optimize their resources, particularly irrigation sets.

Terms and Conditions of Lease

There were two types of tenancy, namely, share-cropping on a 50:50 basis and fixed kind rent prevalent in the sample villages. Under the former system, the costs on new inputs, such as, high-yielding seeds, chemical fertilizers, pesticides, irrigation, etc., were divided between the owner and the tenant equally, while the costs on labour, both human and bullock were borne by the tenant and the land revenue by the owner. In the latter system, all the cultivating expenses, except land revenue, were borne by the tenant. The land revenue was paid by the owner. The rent in this system was 700 kg. of paddy per hectare in the *kharif* season and 1,000 kg. of paddy per hectare in the summer season. The distribution of tenanted land by types of tenancy and by size class of operated area in the sample villages is given in Table VI.

It is evident from the table that share-cropping still continued as the predominant form of tenancy arrangement in the *kharif* season in both the villages, accounting for 94 per cent in the first village and cent per cent in the second village. In the summer season in 1967-68, the entire leased-in land was also under share-cropping on a 50:50 basis. However, in 1975-76 we found a significant change in the arrangement—share-cropping being replaced by fixed rent tenancy. In the first village where the lessees were mainly the small and marginal farmers, the share of land under fixed rent basis was 22 per cent, while in the second village where the lessees were the large and the medium farmers, its share was cent per cent.

The distribution of rented land in the summer season by types of lease arrangement among the different size classes of farmers (Table VI) shows that in 1975-76 in the first village, the proportion of leased-in land under share-cropping was negatively related with the size of holding. The proportion of area under this tenancy was 96.11 per cent in the lowest size-class which gradually declined to 34.32 per cent in size class 2-4 hectares. This shows that the poor farmers preferred share-cropping on a 50:50 basis.

The reasons for such a shift from share-cropping to fixed kind rent system are not far to seek. It is revealed from Table VII that the return on per hectare of land under summer paddy was higher in the case of fixed kind rent system than in share-cropping. The return* per hectare in the former system

* Without deduction of labour costs which were supposed to be equal in both the cases.

TABLE VII—OUTPUT, COSTS (ON NEW INPUTS), RENT AND BALANCE PER HECTARE OF PADDY CULTIVATION (SUMMER SEASON) BY TYPES OF TENANCY IN 1975-76

| Village | Total output (Rs.) | Total cost on new inputs (Rs.) | Rent | | Balance | |
|-------------|--------------------|--------------------------------|----------------------|------------------------------|----------------------|------------------------------|
| | | | Share-cropping (Rs.) | Fixed kind rent system (Rs.) | Share-cropping (Rs.) | Fixed kind rent system (Rs.) |
| Sarul | 4,545 | 783 | 2,273 | 1,000 | 1,881 | 2,762 |
| Khargram .. | 4,713 | 1,107 | 2,357 | 1,000 | 1,803 | 2,606 |

was Rs. 2,762 as against Rs. 1,881 in the latter system in the first village. The corresponding figures for the second village were Rs. 2,608 and Rs. 1,803. It has earlier been observed that in the case of share-cropping, all the costs, except labour were shared equally by the tenant and the owner, whereas in the case of fixed kind rent system, the tenants bore all the costs except the land revenue. Thus the substantial farmers mostly belonging to the higher size classes who were endowed with resources preferred the fixed rent system and enjoyed a higher return. On the other hand, the lessees who belonged to the poor category of farmers had to depend on the landowners for working capital and they preferred share-cropping on a 50:50 basis although it gave lower return.

Changes in the Distribution of Holdings

Let us now examine how the transactions in the land-lease market, particularly in the summer season affected the distribution pattern of operated area among the different size classes of farmers in our sample villages.

By operated area we mean here the total area under operation during the two seasons, *viz.*, *khari*f and summer. Since in the period prior to the green revolution paddy was cultivated only during the *khari*f season we have taken into account the operated area in this season for the pre-green revolution period. However, for the post-green revolution period we have included the area under operation during both the seasons in the total operated area. The distribution of holdings and the operated area is presented in Table VIII.

For the analysis of the changes in the distribution of operated area we have employed Lorenz curves for two points of time, one the pre-green revolution period and the other post-green revolution period. We have also measured the degree of inequality numerically in terms of Lorenz ratio. The area between the line of equality and the curve of concentration measures the degree of inequality.

It is observed that in the first village the small farmers gained a greater area than the larger farmers during the period between 1965-66 and 1975-76, since the curve depicting the distribution in 1975-76 is found to lie nearer to

TABLE VIII—DISTRIBUTION OF HOLDINGS AND OPERATED AREA BY SIZE CLASS

| Size class (hectare) | No. of holdings | | Operated area | | | | | |
|-------------------------|-----------------|----------------------------|-------------------|----------------------------|-------------------|----------------------------|--|--|
| | No. | Percentage distribution | 1965-66 | | 1975-76 | | | |
| | | | Area (hectare) | Percentage distribution | Area (hectare) | Percentage distribution | | |
| Sarul | | | | | | | | |
| 0.01-1.00 | 36 | 35.65 | 19.27 | 9.38 | 44.25 | 11.79 | | |
| 1.01-2.00 | 31 | 30.69 | 46.90 | 22.84 | 97.73 | 26.05 | | |
| 2.01-4.00 | 20 | 19.80 | 61.26 | 29.83 | 112.46 | 29.97 | | |
| 4.01-6.00 | 10 | 9.90 | 47.76 | 23.25 | 78.86 | 21.01 | | |
| 6.01 and above .. | 4 | 3.96 | 30.20 | 14.70 | 41.94 | 11.18 | | |
| Total | 101 | 100.00 | 205.39 | 100.00 | 375.24 | 100.00 | | |
| Khargarm | | | | | | | | |
| 0.01-1.00 | 33 | 30.84 | 24.65 | 10.56 | 25.79 | 9.14 | | |
| 1.01-2.00 | 37 | 34.58 | 56.74 | 24.32 | 59.27 | 21.01 | | |
| 2.01-4.00 | 24 | 22.43 | 70.82 | 30.35 | 82.08 | 29.10 | | |
| 4.01-6.00 | 10 | 9.35 | 53.77 | 23.04 | 75.70 | 26.83 | | |
| 6.01 and above .. | 3 | 2.80 | 27.36 | 11.73 | 39.27 | 13.92 | | |
| Total | 107 | 100.00 | 233.34 | 100.00 | 282.11 | 100.00 | | |

the diagonal line than the curve depicting the distribution for the year 1965-66, the pre-green revolution period. The concentration ratio declined from 0.47 in the pre-green revolution period to 0.41 in the post-green revolution period. In the second village, however, a reverse trend is observed, that is, the inequality in the distribution of operated area had increased during the period. The curve showing the distribution of operated area in 1975-76 is found to lie farther away from the line of equality as compared to the curve showing the distribution in the pre-green revolution period. Thus the gain in the area by the larger farmers was greater than the smaller farmers. The concentration ratios are 0.42 and 0.48 for the pre-green revolution and the post-green revolution periods respectively.

IV

Conclusion

It is clearly revealed from the above analysis that since the introduction of the new technology the lease market had undergone some significant

changes and the nature and extent of irrigation were important factors in shaping its character.

In one of the areas where the irrigation ratios had increased remarkably due to the public irrigation system, tenants happened to be the small holders. The large farmers owing to their problems of supervision and management under labour intensive techniques preferred to lease out some portion of their lands, while the small and marginal farmers took such lands on lease to optimize the use of their labour power. In the other area, where the irrigation water was available from private sources, the supply of land for lease came from the small holders. Because of poor resource base, these farmers were unable to take risk for such a heavy financial investment required for the cultivation of paddy in the summer season. Thus they were forced to lease out their lands to the owners of the shallow tubewells and pumpsets who belonged to the rich category of farmers. On the other hand, the rich farmers with spare machine-time entered into the market for renting-in lands in order to make better use of their capital assets, particularly irrigation sets. Thus in this case, the new technology placed the large farmers in an advantageous position in the lease market than their smaller counterparts.

Another important effect of the new technology had been on the nature of tenancy. While share-cropping was widely prevalent in the *kharif* season, fixed kind rent gained importance in the summer season. However, in the summer season share-cropping was more prevalent among the small farmers as compared to the large farmers who preferred fixed kind rent basis. As between the two systems, the fixed kind rent system was more profitable as the whole of the economic surplus after meeting the cultivation expenses went to the farmers. On the other hand, under the share-cropping tenancy, the tenant had to part with a part of the surplus created by his own labour. Because of the paucity of resources the small tenants had to accept share-cropping arrangement. Thus the economically powerful landowners exploited the weaker holders in the lease market.

Lastly, we observed two opposite situations in regard to the change in the distribution pattern of operated area. In the village where nearly 90 per cent of the area was brought under summer paddy by the public irrigation system, the small and the marginal farmers improved their position by controlling more lands through the lease market. In the other village where the irrigation water was available from private source, the larger farmers controlled more lands than before through the lease market. Thus the inequality in the distribution of operated area increased after the introduction of the new technology.

It may be noted that the data relate to two villages which were selected purposively and hence they cannot be taken as representative. However, it is quite revealing from the study how the two different irrigation systems acted in two different ways in changing the structural distribution of operated area, the effective unit of production, and thereby bringing a change in the system of economic inequalities.