

Working Paper No. 128

Verkadu: A Resurvey

by

V. Chandrasekara Naidu

Madras Institute of Development Studies

79, Second Main Road, Gandhi Nagar

Adyar, Chennai 600 020

February 1995

TITLE OF PAPER : VERKADU : A RESURVEY

AUTHOR'S NAME AND INSTITUTIONAL AFFILIATION

V. Chandrasekara Naidu
Madras Institute of Development Studies
79, II Main Road
Gandhinagar Adyar
Madras 600 020

ABSTRACT

Between 1985-86 and 1993-94, Verkadu for the first time witnessed partial modernisation of agriculture with a few big farmers acquiring tractors and pumpsets. But this had not resulted in any substantial improvements either in the cropping intensity or in the labour utilisation per unit of land or in the productivity of paddy which was the main crop of the village. However, the village experienced greater diversification of its economy with about three-fifths of its households and workforce depending on non-agricultural occupations available outside the village for their livelihoods. Thus the village had transformed itself from mainly an agricultural one in the mid-80s to substantially a non-agricultural one in the early 1990s. By 1993-94, the non-residents not only owned about two-thirds of the agricultural land but a few of them had also constructed factories within the village boundaries. However, the development of the village both through its agricultural and non-agricultural activities led to the declines in absolute, abject and relative poverty levels between the two survey years. While the absolute poverty of agricultural households declined, the same came to be concentrated in the non-agricultural casual worker households in the village. A further disaggregated analysis of the data revealed that in comparison to agricultural population, a larger proportion of non-agricultural population crossed the poverty line by 1993-94. And this only indicated the greater pressure exerted by the external economy on the poverty of non-agricultural households residing within the village.

ACKNOWLEDGEMENTS

I am grateful to Mr. A. Jayaraman and Mr. G. Shanmugam who helped me in the collection and tabulation of field data. I thank Drs. M. S. S. Pandian and M. Thangaraj for their comments on the earlier drafts of this paper. I also thank Mr. C. Narasimhan for word-processing the paper.

VERKADU : A RESURVEY

CHAPTER I

GEOGRAPHICAL AND DEMOGRAPHIC CHARACTERISTICS OF THE VILLAGE

LOCATION OF THE VILLAGE

Verkadu is located at about 50 kilometres north of Madras city and three to four kilometers east of Gummidipundi town which is its taluk head quarters. The village continues to be one of the backward agricultural villages of Chengalpattu-MGR district in Tamil Nadu. The village consists of three hamlets where caste households are living and a separate scheduled caste colony which lies contiguous to one of the hamlets. The hamlets and the scheduled caste colony are spread over a radius of about three kilometres. While one hamlet is situated right on the National Highway No.5, the other two and the scheduled caste colony are situated close to the rail track leading to Gummidipundi station. Between 1985-86 and 1993-94, a new scheduled caste colony has come up in the neighbouring village just adjacent to Verkadu with only a narrow metal road separating them. Besides, the township of Gummidipundi has also, during this period, extended upto one of the hamlets of the village. Hence Verkadu is no longer an isolated village situated at some distance from the town of Gummidipundi. The town is moving faster into the village boundaries with the arrival of two new petrol bunks on the National Highway and two new factories close to the residential areas. Thus, there was the intrusion of urban economy into the predominantly rural and agrarian economy of the village between the two survey years.

METHODOLOGY OF THE STUDY

The methodology of the study consisted of census and sample surveys conducted in the village in 1993-94. While the census survey aimed at the collection of data on demographic aspects, workforce, land and livestock ownerships; the sample survey aimed at the collection of data on agricultural and non-agricultural aspects, sources of incomes, employment and wage rates and the benefits derived from the utilisation of common property resources and the implementation of public programmes. For the sample survey we selected 48 households out of 171 households residing in the village in 1993-94. The sample households constituted about 28 per cent of households in the village. Across the categories, we were not able to maintain the uniformity in the proportions of households selected for sample survey for various reasons of accessibility and requirements of data collection and analysis. However, for the village level generalisations, we have used weighted averages.¹ The households for the sample survey were selected based on stratified sampling method. The households were first stratified on the basis of their "major sources of income". Then, they were further stratified based on the size of their "land ownership". This exercise enabled us to divide the households into nine categories. The farming households were divided into big farmers (owning 10 acres and above), medium farmers (owning between 5.01 and 9.99 acres), small farmers (owning between 2.51 and 5.00 acres) and marginal farmers (upto 2.50 acres), and pure tenants (who earned their incomes mainly by cultivating leased-in land).

TABLE 1

Changes in Demography and Literacy Levels between 1981 and 1993
in Verkadu village and Gummidipundi Taluk

	Village				Taluk	
	1981	1985-86	1991	1993-94	1981	1991
1. Number of households	136	128	165	171	25814	32688
2. Population						
a) Total	617	627	745	762	122613	143513
b) Males	319	315	378	389	62263	72928
c) Females	298	312	367	373	60350	70585
3. Number of literates						
a) Total	250	374	484	431	39032	59869
b) Males	166	219	280	253	27193	37993
c) Females	84	155	204	178	11839	21876
4. Percentage of literates to total population	40.52	59.65	64.97	56.56	31.83	41.72
5. Scheduled caste population	89	83	124	112	30819	37427
6. Percentage of Scheduled caste population to the total population	14.42	13.24	16.64	14.70	25.14	26.08
7. Scheduled tribe population	11	5	8	35	2978	3120
8. Percentage of Scheduled tribe population to the total population	1.78	0.80	1.07	4.59	2.43	2.17
9. Sex-ratio	934.17	990.48	970.90	958.87	969.27	967.87
10. Percentage change of total population from the previous year 28.46	—	1.62	18.82 (between 1981 & 1991)	21.53 (between 1986 & 1993)	18.70	17.04

Sources: 1) Census of India, 1981 Series 20, Tamil Nadu, District Census Handbook, Part XIII B, Village and Town-wise primary Census Abstract, Chenglepattu District.

2) Data for 1985-86 are from field surveys (census)

3) Village Primary Census Abstract, Gummidipundi Taluk, 1991

4) Data for 1993-94 are from field surveys (census).

The reference year for the survey was the agricultural year of July 1993 to June 1994. The unit of analysis remained an "household" rather than the individual.

DEMOGRAPHIC FEATURES OF THE VILLAGE

There were 171 households in the village in 1993-94, as compared to 128 households in 1985-86. The population of the village increased from 627 to 762 between these years. Thus the population of the village went up by more than one-fifth (21.53 per cent) in a period of 8 years. The annual rate of growth of village population in this period worked out to 2.69 per cent. While this was far higher compared to annual rates of growth of population of the state (1.54 per cent) and taluk (1.70 per cent) levels, it was slightly lower compared to the district (2.87 per cent) level² observed between 1981 and 1991. Within the village, the rate of growth of population was higher between 1985-86 and 1993-94, compared to the same between 1981 and 1991. However, the faster rate of growth of village population between the two survey years can be attributed both to the return of old households who left the village in search of non-agricultural occupations prior to 1985-86 and the in-migration of four scheduled caste and five scheduled tribe and three upper caste households consequent to the setting up of small factories in and around the village.

The demographic details of the village are presented in Table 1. According to the table, while the official Census data reveal a substantial increase in the literacy levels of the village between 1981 and 1991, our own census survey reveal a marginal decline between 1985-86 and 1993-94. However, according to 1991 Census, little less than two-thirds of the village population was literate. While this largely confirms the literacy rates obtained at the state (62.66 per cent) and the district (66.38 per cent) levels, the village level literacy rate was far higher compared to the taluk level literacy rate of 41.72 per cent in 1991. The sex-ratio of the village was consistently falling between the two survey years and it was lower than even taluk level figure in 1991. Of course, the unfavourable sex-ratios were observed not only in the village but also at the taluk, district and state levels in 1991. Demographically, the village was always dominated by the upper castes and the proportion of scheduled caste population in the total population varied hardly between 13.24 per cent and 16.64 per cent. The scheduled tribe population increased considerably from a mere five in 1985-86 to 35 in 1993-94. And, they lived in seven households in our resurvey year. However, five of these households came from outside and settled down in the village between the two survey years. They along with the in-migration of scheduled caste and other upper caste households largely explain the faster rate of growth of population observed in the village between the two survey years.

The castewise and household level demographic details are provided in Table 2. According to the table, there were nine caste groups of households living in the village in 1993-94. In the caste hierarchy, while pillai, Mudaliars, Reddys and Naickers come first, second, third and fourth respectively; the scheduled castes and tribes come as the last two groups. According to the table, about 46 per cent of the households and 42 per cent of the village population belonged to the caste of Naickers. The remaining eight castes accounted for the rest of 54 per cent of the households and 58 per cent of the population in 1993-94. Hence the village demographic structure continued to be dominated by Naickers. Whereas the average family size in the village declined marginally, the earner-dependent ratio (earners/dependants) declined sharply between the two survey years indicating the increased burden of dependants in the village over the years. And, there were two to three literates per household in the village in our resurvey year.

The table also shows that while the majority of (38 out of 61) agricultural labourers belonged to the low castes (scheduled castes and tribes), the majority (141 out of 161) of non-agricultural workers belonged to the upper castes in the village in 1993-94. And more than half of the non-agricultural workers belonged to the caste group of Naickers. This particular caste group also provided the second largest number of agricultural labourers in the village in 1993-94.

TABLE 2
Caste and Demography in Verkadu in 1993-94

Caste group	Number of households	Number of persons	Average family size	Number of earners	Number of dependents	Earners dependents ratio	Number of agl. labourers	Number of non agl. workers	Number of literates
1. Mudaliars	25	110	4.40	33	77	0.43	3	17	88 (3.52)
2. Naickers	79	323	4.09	121	202	0.60	13	86	166 (2.10)
3. Reddy	17	84	4.94	26	58	0.45	2	8	45 (2.65)
4. Pillai	12	61	5.08	24	37	0.65	3	22	49 (4.08)
5. Nadars	1	9	9	3	6	0.50	—	3	8 (8.0)
6. Dhobi	2	22	11	7	15	0.47	2	4	12 (6.00)
7. Barber	1	6	6	1	5	0.20	—	1	3 (3.00)
8. Scheduled Castes	27	112	4.15	47	65	0.72	28	14	54 (2.00)
9. Scheduled Tribes	7	35	5	16	19	0.84	10	6	6 (0.86)
TOTAL	171	762	4.46	278	484	0.57	61	161	431 (2.52)

Source : Field Survey (census)

Note : * Figures in parantheses are the numbers of literates per household in each caste group in the village.

The household level demographic characteristics by the occupational categories are shown in Table 3. The households of the village in 1993-94 were divided into nine occupational categories based on their land ownership and major source of income. As can be seen from the table about two-fifths (39.18 per cent) of the households belonged to the category of non-agricultural casual workers in 1993-94. And all other eight categories accounted for the remaining three-fifths of the households. However, while non-agricultural occupations provided the major source of income to three-fifths (60.23 per cent) of households, the agricultural occupations provided the major source of income to the remaining two-fifths of the households in 1993-94. On the contrary, the agricultural occupations provided the major source of income to about 54 per cent of the households in 1985-86. Thus, the increasing numbers of households and population came to depend more and more on non-agricultural occupations for their livelihoods by 1993-94. At the household level, despite the reduction in the average family size of the village, the big farmers maintained the largest families followed by medium and small farmers. However, a small farmer household which belonged to the services group in our earlier survey came to have the largest number of 22 persons in it by 1993-94 in the village. The average family sizes were the least with three to four persons in the case of agricultural labourers and the non-agricultural casual workers who depended mainly on the sale of their labour power either within or outside the village. And, almost all categories of households with the exception of agricultural labourers suffered from the larger number of dependants in 1993-94. And the earner-dependent ratios were very low in the case of big and small farmers in the village. On an average, there were two to three literates per household in the village. But, across the categories, the big, medium and small farmers came to have four to five literates per household in our resurvey year. However, the highly educated (i.e. who acquired college education) persons always belonged to the salaried group in the village.

TABLE 3

Demographic Characteristics by Occupational Categories in Verkadu in 1993-94

Category of house-holds	Number of house holds	Number of persons	Average family size	Number of earners	Number of dependants	Earner dependent ratio	Number of literates	Literates per house hold
1. Big farmers	4	29	7.25	6	23	0.26	21	5.25
2. Medium farmers	3	19	6.33	6	13	0.46	16	5.33
3. Small farmers	9	61	6.78	14	47	0.30	42	4.67
4. Marginal farmers	17	69	4.06	30	39	0.77	35	2.06
5. Pure tenants	13	66	5.08	21	45	0.47	28	2.15
6. Agricultural labourers	22	87	3.95	43	44	0.98	28	1.27
7. Non-agricultural workers with regular salaried employment	34	171	5.03	55	116	0.47	123	3.62
8. Non-agricultural casual workers	67	250	3.73	100	150	0.67	133	1.98
9. Artisanal and service household	2	10	5.00	3	7	0.43	5	2.50
Total	171	762	4.46	278	484	0.57	431	2.52

Source : Field survey (census).

The village level changes in the composition of workforce³ between 1985-86 and 1993-94 are presented in Table 4. According to the table, of the total population of 762 in 1993-94; 278 were workers and 484 were non-workers. The non-workers accounted for a little less than two-thirds of the population in our resurvey year. While the percentage of workers in the population increased from 29.35 to 36.48, the percentage of non-workers declined from 70.65 to 63.52 between 1985-86 and 1993-94. Of the total workers, 42 per cent were agricultural workers and 58 per cent were non-agricultural workers in 1993-94. Between 1985-86 and 1993-94, the proportion of agricultural workers to total workers declined substantially with a corresponding increase in the proportion of non-agricultural workers to total workers. Compared to its own taluk in 1991, the village had a much higher proportion of workers engaged in non-agricultural occupations in 1993-94. And, much of the increases were noted in the early 1990s. However, the proportion of agricultural workers in the village was only slightly lower in 1993-94, compared to the same at the taluk level in 1991. Again, between the survey years, while the percentage of cultivators in the total workers declined sharply, the percentage of agricultural labourers in the total workers declined negligibly. Compared to its own taluk, the proportion of both the cultivators and agricultural labourers were far lower in the village in 1993-94. In absolute terms, between 1985-86 and 1993-94, while the number of cultivators declined by 10, the number of agricultural labourers increased by three. In the same period, the number of non-agricultural workers had more than doubled. And, even among the non-agricultural workers, the casual workers had far outnumbered the non-agricultural regular salaried employees in the village in 1993-94. However, set against its own taluk, the village had far lower and far higher proportions of agricultural and non-agricultural workers respectively in 1993-94. This uneven growth and distribution of workforce in the village had implications for the incomes earned by different sections of the society between the two survey years. They also reveal the increased importance of non-agricultural occupations available outside the village to the resident workers.

TABLE 4
Changes in the Composition of Workforce in Verkadu and
Gummidipundi Taluk between 1981 and 1993-94

	Village			Taluk	
	1985-86	1991	1993-94	1981	1991
1. Total population	627	745	762	122613	143513
2. Total workers	184	310	278	47127	58385
3. Total cultivators	66	137	56	17138	16375
a) Males	53	100	49	14613	12753
b) Females	13	37	7	2525	3622
4. Total agricultural labourers	58	91	61	18023	26734
a) Males	27	52	22	10571	15549
b) Females	31	39	39	7452	11185
5. Total non-agricultural workers	60	82	161	11966	15276
6. Percentage of total workers to total population	29.35	41.61	36.48	38.43	40.68
7. Percentage of agricultural workers to total workers	67.39	73.55	42.09	74.60	73.83
8. Percentage of non-agricultural workers to total workers	32.61	26.45	57.91	25.39	26.16
9. Percentage of cultivators to total workers	35.87	44.19	20.14	36.36	28.05
10. Percentage of agricultural labourers to total workers	31.52	29.35	29.94	38.24	45.79
11. Total number of non workers	443	435	484	75486	79542
12. Percentage of non workers to the total population	70.65	58.39	63.52	61.56	59.32

Source : Field survey (census)

CHAPTER 2

LAND AND LIVESTOCK OWNERSHIP AND TENANCY

LAND UTILISATION

There were not many changes observed in the pattern of land utilisation in the village, after our last survey in the mid-80s. According to the official statistics relating to the year 1991, the total area of the village remained at 952.59 acres. Out of this total area, whereas 674.71 acres were cultivated, 277.82 acres were uncultivated. Thus the village had more than two-fifths (41.17 per cent) of the total area uncultivated in 1991. Again, out of the total cultivated area of 674.77 acres, while 360.64 acres were irrigated, 314.13 acres were unirrigated. In other words, the village had a high proportion (46.55 per cent) of cultivated area unirrigated in the latest year of 1991. The village has no area under forest. Some of the other landed resources which the village had consisted of nine ponds and a few palm groves. Out of nine ponds, while six were owned by private individuals, three were owned by the village as part of its common property resources. In the same manner, whereas a few palm groves were owned by the temples located in the neighbouring villages. But, the residents obtained usufructuous rights over them for a long time. Hence these palm groves contributed considerable incomes to the households of the village both in terms of supplying roofing materials for own use and for the sale of palm products like fruits, leaves and toddy. And the large proportion of uncultivated area provides enough of opportunities to the households both to expand their cultivated area and to make use of the same as a common property resource. Besides, the availability of large number of ponds in and around the village had helped to improve the area under irrigation over the years.

LAND OWNERSHIP AND DISTRIBUTION

Out of the total cultivated area of 674.77 acres, as against the residents owning 181.63 acres, the non-residents owned 463.14 acres. And the temples located both within and outside the village owned the remaining 30 acres of cultivated area. While the residents owned 26.92 per cent of the cultivated area, the non-residents owned 68.64 per cent of the cultivated area. And, the institutional ownership of land accounted to the remaining 4.44 per cent. Hence the village had a very high proportion of land owned by the non-residents in 1993-94. And the residents hardly owned about one-fourth of the cultivated area in the village. However, between 1985-86 and 1993-94, the proportion of area owned by the non-residents increased from 62.01 per cent to 68.64 per cent with a corresponding decline in the proportion of area owned by the residents. And there was no change in the ownership of land by the temples. Further, as against the non-residents owning such a high proportion of land in the village three of the resident big farmers owned only 10 acres of land in one of the neighbouring villages in 1993-94. The categorywise distribution of land ownership in 1993-94 is presented in Table 5. The table shows that out of 171 households in the village, 77 households or 45 per cent of households owned some land with the remaining 55 per cent of households not owning any land either within or outside the village in 1993-94. Between 1985-86 and 1993-94, the percentage of landless households increased from 41.41 to 54.97. In absolute terms, the number of households not owning any land had gone up from 53 to 94 in these years. Thus, there had been a substantial increase in the landlessness of the households⁴ in the village over the years. Out of 181.63 acres owned by the residents in 1993-94, a few big farmers themselves owned little less than one-third of it. And the pure tenants, agricultural labourers and the artisanal and service households which accounted for 21.64 per cent of households owned 4 per cent of land held by the residents in our resurvey year. Thus, the distribution of land ownership was highly skewed among the households even in 1993-94. The Gini coefficient calculated for this purpose showed it to be 0.4683. However, between 1985-86 and 1993-94, the concentration of land ownership among the households declined considerably with the Gini coefficients⁵ turning out to be 0.5512 and 0.4683 respectively.⁶

TABLE 5

**Distribution of Land Ownership, Operation, Leasing-In and Leasing-out
by Category in Verkadu In 1993-94**

(Extent in acres)

Category of house-holds	No. of HHs owning land	Extent of area owned (in acres)	As %age to the total area owned	No. of HHs leasing (in acres)	Extent of area leased (in acres)	No. of HHs leasing-out (in acres)	Extent of area leasedout (in acres)	No. of HHs operating land	Extent of area operated (in acres)	As%age to the total operated area
1. Big farmers	4	53.78	29.61	2	9.00	1	11.30	4	51.48	23.24
2. Medium farmers	3	19.00	10.46	1	3.00	—	—	3	22.00	9.93
3. Small farmers	9	34.25	18.86	5	7.40	2	4.75	8	36.90	16.66
4. Marginal farmers	17	25.43	14.00	10	11.70	—	—	17	37.13	16.76
5. Pure tenants	6	6.90	3.80	13	27.80	—	—	13	34.70	15.66
6. Agricultural labourers	2	0.50	0.27	4	4.50	—	—	6	5.00	2.26
7. Non-agri-cultural workers with regular salaried employment	20	28.07	15.45	1	1.00	5	11.04	15	18.03	8.14
8. Non-agricultural casual workers	16	13.70	7.54	6	6.50	6	3.90	12	16.30	7.36
9. Artisanal and service households	—	—	—	—	—	—	—	—	—	—
Total	77	181.63	100.00	42	70.90	14	30.99	78	221.54	100.00

Source : Field survey (census)

The declining ownership of land in the village was also partly brought about by the sale of five acres of agricultural land for non-agricultural purposes to the non-residents at a very high price of Rs.5 lakhs per acre, in the early 1990s. Between the survey years, the non-residents also bought some more land in the village by doubling the prices of agricultural land from about Rs.20,000 per acre to Rs.40,000 per acre. The non-residents started acquiring more land in the village with the expectation of increased prices of real estate properties consequent to the industrialisation of neighbouring Gummidipundi town. However, the five acres of land which were sold at a very high price of Rs.5 lakhs per acre, were situated right on the National Highway and hence commanded such a high price. Two petrol bunks and two factories were constructed on these 5 acres by the non-residents between the two survey years.

The distribution of land ownership by caste is shown in Table 6. According to the table, the demographically less dominant Mudaliars (only 25 households) and the demographically dominant Naickers (79 households) owned totally 78 to 79 acres each in 1993-94. Hence the average size of the land ownership among the Naickers was much smaller at 1 acre per household compared to Mudaliars whose ownership of land per household was 3.12 acres. Thus, as against the Naickers dominating the demographic structure of the village, Mudaliars dominated the land ownership in 1993-94. Mudaliars not only dominated the land ownership structure but they also dominated the ownership of agriculturally related assets such as livestock, pumpsets and tractors in the village by 1993-94. However, out of 181.63 acres owned by all caste groups in 1993-94, while Mudaliars and Naickers put together owned 86.54 per cent, all other caste groups owned the remaining 13.46 per cent. Thus, as far as village economy and society are concerned, Mudaliars and

TABLE 6

**Distribution of Land Ownership, Operation, Leasing-in and Leasing-out
by Caste in Verkadu in 1993-94**

(Extent in acres)

Caste Group of house- holds	No. of HHs owning land	Extent of area owned (in acres)	As %age to the total area owned	No. of HHs leasing in	Extent of area leased in (in acres)	No. of HHs lea- sing-out (in acres)	Extent of area leasedout (in acres)	No. of HHs opera- ting land	Extent of area operated (in acres)	As %age to the total operated area
1. Mudaliare	15	78.15	43.03	9	20.00	3	15.30	15	82.85	37.40
2. Naickers	40	79.03	43.51	14	22.90	8	12.94	35	88.99	40.17
3. Reddys	10	15.05	8.28	10	18.80	2	0.75	12	33.10	14.94
4. Pillai	3	2.80	1.54	1	0.30	1	2.00	1	1.10	0.50
5. Nadars	—	—	—	—	—	—	—	—	—	—
6. Chettiars	—	—	—	—	—	—	—	—	—	—
7. Dhobi	1	3.00	1.65	1	0.40	—	—	1	3.40	1.53
8. Barber	—	—	—	—	—	—	—	—	—	—
9. Scheduled Castes	—	—	—	—	—	—	—	—	—	—
10. Scheduled Tribes	3	0.90	0.50	1	2.00	—	—	3	2.90	1.31
Total	77	181.63	100.00	42	70.90	14	30.99	78	221.54	100.00

Source : Field survey (census)

Naickers emerged as the two important powerful caste groups over the years. But landlessness was high among the Naickers with 39 out of 79 households not owning any land either within or outside the village in 1993-94. By contrast, only 10 out of 25 mudaliar households did not own any land either within or outside the village in the same year. Because of high landlessness persisting among Naickers, they contributed to second largest number of agricultural labourers (next only to scheduled castes) and the largest number of non-agricultural casual workers in the village in 1993-94. Next to Mudaliars and Naickers, Reddys owned some land in the village. They owned, on an average, 1.50 acres per household. And seven out of 17 Reddy households did not own any land either within or outside the village. But they compensated their lack of land ownership by leasing-in considerable extents of land for cultivation. And many of the pure tenants in the village belonged to this caste both in 1985-86 and 1993-94.

LAND OPERATION AND TENANCY

The information on land operation (land owned + leased in land — leased out land) and tenancy over the categories are provided in table 5. In 1993-94, while 42 households leased-in 70.90 acres, 14 households leased-out 30.99 acres. Between 1985-86 and 1993-94, both the number of households leasing-in and the extent of area leased-in declined considerably.⁷ Whereas the number of tenants declined from 49 to 42, the extent of area leased-in by them declined from 94.77 acres to 70.90 acres. But the decline in the extent of area leased-in had mainly affected the pure tenants rather than the owner-cum-tenants in the village. As against the extent of area leased-in by the owner-cum-tenants declining by 0.78 acres, the same in the case of pure tenants declined by 23.87 acres between the two survey years. Hence the declining tenancy left the owner-cum-tenants untouched in the village. As far as leasing-out is concerned, both the number of households leasing-out and the extent of area leased-out increased between the two survey years. As against only four households leasing-out

26.42 acres in 1985-86, 14 households leased-out 30.99 acres in 1993-94. But the difference between the extents of leasing-in and leasing-out land was provided by temples and non-resident owners of land. While temples leased-out 30 acres of land through their trustees, the non-resident owners leased-out 9.91 acres in 1993-94. Whereas resident land owners increased their extents of land leased-out, the non-resident land owners reduced their extents of land leased out between the two survey years. The factors which explained the declining area under tenancy are: 1) the 10 frequent default of rent payments, especially by the pure tenants, 2) the returning of leased-in lands to the owners by the pure tenants themselves for want of capital to meet the increased costs of cultivation, 3) the increase in the per acre rent charged from three bags of paddy per year in 1985-86 to five bags of paddy per year in 1993-94 and 4) the change of multiple cropping pattern into the monocropped cultivation of paddy. Out of 70.90 acres leased-in in 1993-94, while the owner-cum-tenants leased-in 43.10 acres or 60.79 per cent, the pure tenants leased-in 27.80 acres or 39.21 per cent. And, compared to 1985-86, the big and marginal farmers leased-in more lands in order to take advantage of the newly acquired tractors and pumpsets in the case of the former and to take advantage of the available family labour and livestock in the case of the latter.

The castewise distribution of leasing-in and leasing-out in 1993-94 is provided in Table 6. According to the table, the three caste groups of Mudaliars, Naickers, and Reddys put together leased-in the largest percentage (87.02) of area leased-in with the remaining seven caste groups of households accounting for a negligible percentage (12.98) of area leased-in in 1993-94. But, in the matter of leasing-out, only Mudaliars, and Naickers leased-out considerable extents of land in our resurvey year. And the scheduled castes and the scheduled tribes leased-in small extents of land without any leasing-out in 1993-94.

Like in 1985-86, in 1993-94 also the land was leased-in only on Kuttagai (fixed rent) basis. The land was never leased-in on varam (share cropping) basis. Though the land rent increased from three to five bags of paddy, per acre per year, the landlords used to get only two and a half bags of paddy per acre because only one crop was raised in a year. And the big farmers were no longer subletting the temple lands to tenants. Instead, they were leased-out by a group of trustees, who were in charge of temple maintenance in our resurvey year.

The categorywise distribution of operated area in 1993-94 is provided in Table 5. The table shows the total operated area of the village as 221.54 acres. But compared to 1985-86, there had been a substantial decline in the total operated area of the village by 1993-94. Between these years, the total operated area of the residents declined from 294.68 acres to 221.54 acres. This represented a decline of 24.82 per cent between the two survey years. Some of the factors which contributed to such a decline in the operated area were a) the declining land ownership and b) tenancy over the years. Out of the total operated area of 221.54 acres in 1993-94, the four big farmers themselves operated little less than one-fourth of the area with the remaining 73 households operating the rest of about three-fourths of the area. However, the operated area was less concentrated compared to the concentration of land ownership among the households in 1993-94. While the Gini coefficient for the land ownership showed it to be 0.4683, the same for the operated area showed it to be 0.4296. Between 1985-86 and 1993-94, the concentration of operated area among the households declined with the Gini coefficients respectively showing 0.4756 and 0.4296. Surprisingly, the extents of area operated by the big, medium and small farmers, pure tenants and agricultural labourers and non-agricultural workers with regular salaried employment declined, with increases observed in the case of marginal farmers and the non-agricultural casual workers between the two survey years. This happened mainly because of the sale of land by the previous medium farmers some of whom subsequently became marginal farmers in the village. Hence there was a bulging in the category of marginal farmers both in terms of the number of households and the extent of area owned and operated by them between the two survey years.

The castewise distribution of operated area in the village in 1993-94 is presented in Table 6. According to the table, the Mudaliars and Naickers themselves operated little more than three-fourths of the operated area. Of course, this was slightly lower compared to their share of owned area in the village in 1993-94. This was brought about mainly by the large extent of area leased-out by the land owners belonging to these two castes, who preferred to concentrate more on non-agricultural occupations available outside the village. The demographically less important Reddys operated considerable extent of land due to leasing-in of more lands compared to the land owned by them in our resurvey year. However, the castes other than Mudaliars, Naickers and Reddys hardly owned and operated 5.17 per cent and 7.49 per cent of areas respectively in the village in 1993-94. Thus, of the 10 caste groups in the village only three caste groups, i.e. Mudaliars, Naickers and Reddys dominated the demographic, economic, institutional and social structure of the village in 1993-94.

CHANGES IN THE OWNERSHIP OF AGRICULTURALLY RELATED ASSETS

A: LIVESTOCK

The ownership of livestock is essential for the earnings of both agricultural and non-agricultural incomes by the households in the village. Apart from earning incomes, the traditional agricultural operations require a lot of draught power. Besides, they provided the much needed domestic manures to the households to be used in traditional agriculture. Hence the ownership and distribution of different types of animals become all the more important to the households. The changes in the numbers of different types of animals owned at the village level, between 1985-86 and 1993-94, are presented in Table 7. According to the table, the total number of animals increased from 222 to 301 representing an increase of 35.59 per cent between these two years. By contrast, we observed the declining number of animals owned in the village in the earlier period of 1976-77 to 1985-86 by 33 per cent. Thus, the village had regained much of its animal strength by 1993-94. And this had implications for the incomes earned by different categories of households in the village. As far as the changes in the distribution of different types of animals are concerned, while there had been marginal declines observed with regard to draught animals owned in the village, numbers of all other types of animals in particular sheep and goats owned in the village increased substantially between the two survey years. And there had been a steady increase observed in the numbers of milch animals and sheep and goats owned in the village even over a longer period of 1976-77 to 1993-94. This also indicates the increased incomes earned by the households by pursuing non-agricultural occupations within the village over the years. Between 1985-86 and 1993-94, the percentage increase in the number of animals owned in the village was far higher compared to the same at the district (19.22 per cent) and state (0.52 per cent) levels⁸ between 1982 and 1989.

TABLE 7

Changes in Livestock Ownership between 1985-86 and 1993-94 in Verkadu

Type of animals	1985-86	1993-94	% ago change over 1985-86
1. Number of bullocks	72	70	-2.78
2. Number of milch animals	57	89	56.14
3. Number of he-buffaloes	14	8	-42.85
4. Number of calves or young animals	35	50	42.86
5. Number of sheep and goats	44	84	90.91
Total	222	301	35.58

Source : Field survey (census)

The categorywise distribution of different types of animals owned in 1993-94 is presented in Table 8. According to the table, of all the types of animals, the villagers owned the largest number of milch animals followed by sheep and goats and bullocks. And the ownership of he-buffaloes was the least in our resurvey year. Over the categories, the non-agricultural workers with regular salaried employment owned the largest number (about one-fifth) of animals followed by non-agricultural casual workers and the pure tenants in the village. But the medium farmers owned the largest number of animals per household followed by big and small farmers. And on an average, the households of the village owned one to two animals each in 1993-94. Combining the categories with the ownership of different types of animals we found that while the pure tenants owned the largest number of bullocks, the non-agricultural workers with regular salaried employment owned the largest number of milch animals in the village. The agricultural labourers owned the largest number of sheep and goats in the village. And the ownerships of these different types of animals by them were rather expected given their occupational backgrounds in the village. However, the distribution of livestock ownership among the households was less concentrated compared to the concentration of owned and operated areas among them in 1993-94.

TABLE 9
Agricultural Implements and Machinery :
Categorywise Distribution in Verkadu in 1993-94

Type of Agricultural implements	Big farmers	Medium farmers	Small farmers	Marginal farmers	Pure tenants	Agri- cultural labourers	Non-agri cultural workers with regular salaried employment	Non-agri cultural casual workers	Artisanal and service house- holds	Total no. of imple- ments
1. Wooden ploughs	1	1	2	—	6	1	1	1	—	13
2. Iron ploughs	2	3	5	3	5	—	3	1	—	22
3. Knives and sickles	—	30	44	25	22	4	23	10	—	158
4. Levelling Boards	1	2	3	3	8	1	2	1	—	21
5. Bullock carts	—	1	4	1	2	—	3	2	—	13
6. Other traditional implements	—	—	—	—	—	—	—	7	—	7
7. Pumpsets	3	3	—	—	—	—	—	—	—	6
8. Tractors	4	—	—	—	—	—	—	—	—	4
9. Lorries	2	—	—	—	—	—	—	—	—	2

Source : Field survey (census).

B) AGRICULTURAL IMPLEMENTS AND MACHINERY

While the ownership of less value wooden and iron implements largely indicate the traditional methods adopted in agriculture, the ownership of high value machines largely indicate the adoption of modern methods of cultivation by the households in the village. The data on the ownership distribution of different types of agricultural implements and machinery over the categories in 1993-94 are shown in Table 9.

TABLE 8

Categorywise Distribution of Animals in Verkadu in 1993-94

Category of households	No. of HHs	Number of Different types of animals owned					Total no. of animals owned by the category	As percent age to the village total	Number of animals owned per HH
		Bull-ocks	Milch animal	He-buff aloes	Sheep and goats	Young animals			
1. Big farmers	4	6	9	—	—	4	19	6.31	4.75
2. Medium farmers	3	4	6	3	8	4	25	8.31	8.33
3. Small farmers	9	12	18	—	4	6	40	13.29	4.44
4. Marginal farmers	17	6	10	3	10	9	38	12.62	2.23
5. Pure tenants	13	20	12	2	—	8	42	13.95	3.23
6. Agricultural labourers	22	2	2	—	24	—	28	9.30	1.27
7. Non-agricultural workers with regular salaried employment	34	10	21	—	18	15	64	21.26	1.88
8. Non-agricultural casual workers	67	10	11	—	20	4	45	14.95	0.67
9. Artisanal and service households	2	—	—	—	—	—	—	—	—
Total	171	70	89	8	84	50	301	100.00	—
As percentage to the total	—	23.26	29.56	2.66	27.91	16.61	100.00	—	1.76

Source: Field survey (census).

According to the table, there were 234 traditional less value agricultural implements and 10 high value agricultural machines owned by the households in the village in 1993-94. In addition, there were also two trucks (of six ton capacity each) owned by the big farmers of the village in the same year. And, it is interesting to note that while village agriculture was not at all mechanised during our last survey; there were 4 tractors, 3 electric pumpsets and 3 diesel pumpsets owned and used by the households during our present survey. And the trucks were used mainly for transporting sand and construction materials to the sites in the Gummidipundi industrial estate. Nevertheless, it is discouraging to not that the number of traditional implements owned in the village had declined rather sharply from 712 in 1985-86 to 234 in 1993-94. Thus, they declined by more than two-thirds between these two years. And this had implications for the incomes earned by the agricultural labourers who largely owned and used them and the artisans who mainly manufactured and repaired these less value wooden and iron agricultural implements in the village. However, it is worth noting that all the very high value tractors, electric pumpsets and borewells and trucks were owned only by the big farmers in the village. And all the three diesel engines, costing about Rs.10,000 each, were owned only by the medium farmers. The categories other than the big and medium farmers owned only the traditional less value wooden and iron agricultural implements in the village in 1993-94. In short, the big farmers were the leaders of agricultural mechanisation by 1993-94. While one big farmer bought the tractor on outright purchase basis by paying cash, the remaining three big farmers bought tractors with the help of low interest loans provided by banks for which they mortgaged 10 acres of land each. But they (3) dug bore wells and installed electric pumpsets with their own incomes and savings. The trucks (2) were bought as second hand ones on hire purchase basis from very, high interest rate. charging professional money lenders. For this, they had pledged their ownership documents to the latter.

CHAPTER III

AGRARIAN ECONOMY OF THE VILLAGE

CROPPING PATTERN AND IRRIGATION

Since agriculture is the main stay of the village economy, the analysis of cropping pattern and irrigation along with labour utilisation, wage rates, and costs and returns from agriculture become all the more important to understand the economic conditions of different groups of households in the village. The data on changes in the cropping pattern of the village between 1985-86 and 1993-94 are provided in Table 10. The table shows that while the net sown area remained the same at about 600 acres, the gross cropped area of the village declined from 872.60 acres to 700 acres between these two years. And the intensity of cropping declined from 1.29 per cent in 1985-86 to 1.07 per cent in 1993-94. The cropping intensity in the later year was much lower compared to the state (1.22 per cent) and district (1.28 per cent) level cropping intensities⁹ in 1991-92. The cropping intensity in the village declined despite the installation of three new pumpsets mainly because of the uncertainties of tank irrigation and rainfall which compelled the farmers to restrict their cultivation to one crop in the rainy season. Besides the reduction in the intensity of cropping, the village had changed its multiple cropping pattern into monocropped cultivation of paddy by 1993-94. And many crops raised earlier in the second season were simply discontinued for want of irrigation water. Even in the cultivation of paddy as a main crop, the farmers completely switched over from the traditional varieties to the high yielding varieties. But for the installation of three new pumpsets there could have been no crops grown at all in the second and third seasons. However, with the increased area under current fallows, the lean agricultural season had been very much extended compelling the adult workers of the village to seek some non-agricultural employment outside the village.

TABLE 10

Changes in the Cropping Pattern of Verkadu in 1985-86 and 1993-94

Type of crop	(Extent in acres)					
	1985-86			1993-94		
	First Season	Second Season	Third Season	First Season	Second Season	Third Season
1. Paddy a) Traditional	500	—	—	—	—	—
b) HYV	100	—	—	600	25	25
2. Groundnuts	100	—	—	—	—	—
3. Gingelly	—	50	—	—	—	—
4. Ragi	—	—	—	—	—	—
5. Cumbu	—	—	—	—	—	—
6. Chillies	—	3	—	—	—	—
7. Casurina	10	—	—	—	—	—
Gross cropped area	610	153	—	600	25	25
Net sown area	600	—	—	600	—	—
Intensity of cropping	1.25%	—	—	1.08%	—	—

Source : Village Adangals, Faslis 1395 and 1403 respectively relating to the years of 1985-86 and 1993-94.

Tank continued to be the main source of irrigation for village agriculture. And, for the first time in the early 1990s, three big farmers could sink borewells and instal pumpsets in the village. These three pumpsets together irrigated about 25 acres of paddy land. The earlier traditional lift irrigation system was abandoned by 1993-94. And there was not enough water in the ponds to use the lift irrigation system during the recent years. The three diesel engines were mainly used to pump out the remaining shallow waters of the tank only to complete the first paddy crop. However, the surplus waters of the borewells were sold at either Rs.15 per hour or at 6 bags of paddy per cropped acre. But there was not enough water to sell for irrigation purposes in the village.

CULTIVATION PRACTICES

Between 1985-86 and 1993-94, the farmers of Verkadu discontinued some of the age old traditional agricultural practices by introducing some of the modern methods of cultivation. Though, they followed the well established agricultural seasons, namely, 1) Samba (September to January) 2) Navarai (January to August), and Sornavari (May to August), they had to restrict their agricultural operations to the first Samba season for want of irrigation. As has already been mentioned, the multiple cropping pattern had changed to monocropped cultivation of paddy, that too once in a year. In the mid-80s, a variety of crops were raised by the farmers in two of the three seasons of a year. But that was changed to the cultivation of a single paddy crop in the rainy Samba season when the tank irrigation was available in 1993-94. It is also interesting to note that the traditional varieties of paddy were no longer cultivated in the village. Instead, they were changed by the high yielding varieties of paddy such as IR 36, IR 50, IR 20, ADT 36 and Hybrid Sirumani. But the method of raising paddy had not changed. Even these high yielding varieties (HYV) of paddy which are normally meant for wet cultivation were cultivated as dry crops based on broadcasting the seed rather than transplanting the seedlings. Further, the use of domestic manures were complemented by the use of chemical fertilisers and pesticides. Farmers used, on an average, 100 kgs of different types of chemical fertilisers and Rs.100 worth of pesticides per acre of paddy in 1993-94. And the paddy was cultivated based on broadcasting method because tank irrigation was available only in the middle of the Samba season. Since the HYV paddy was cultivated based on broadcasting method, the farmers could not achieve the expected per acre yield rate even in 1993-94. But, compared to the per acre yield rate of traditional varieties of paddy achieved in 1985-86, there had been a definite improvement in the per acre yield rates of paddy achieved after the introduction of HYVs in the early 1990s. Of course, the costs of purchased inputs had also gone up with it between the two survey years cutting into the net profits earned by the farmers from paddy cultivation. And we will return to this aspect later in the study. However, the cultivation of only one crop a year compelled the farmers to leave their lands fallow for about two-thirds of a year. And agricultural labourers had to face a longer lean agricultural season in 1993-94 compared to 1985-86. Nevertheless, the three pumpset owners together raised paddy in about 25 acres of land in all the above said three agricultural seasons of a year. The availability of pumpset irrigation enabled these three farmers to raise paddy on transplanting method. And they also realised the full potential of cultivating HYV seed in the village. However, allowing the larger extent of land fallow for a longer time not only helped the livestock owners to graze their animals but also helped the land owners to retain their land quality over the years. But the long lean agricultural season and the changing cropping pattern had their implications for labour use in village agriculture in 1993-94.

THE CHANGING LABOUR PROCESS IN AGRICULTURE

As has already been noted (in Table 4), the village witnessed the declining number of cultivators and the increasing number of agricultural labourers between the two survey years. Between 1985-86

and 1993-94, while the number of cultivators declined from 66 to 56, the number of agricultural labourers increased negligibly from 58 to 61. Further, between these two years, whereas both male and female cultivators declined the number of male agricultural labourers declined with a corresponding increase in the number of female agricultural labourers. Between 1985-86 and 1993-94, there had been a complete casualisation of agricultural labour force in the village.¹⁰ Even the two permanent farm servants employed earlier joined the casual agricultural labour force by 1993-94. But the farmers, after the introduction of HYV paddy came to depend more and more on in-migrant agricultural labourers and the neighbouring village agricultural labourers. The mechanisation of agriculture had contrasting implications for the employment of agricultural labourers and the draught animal labour power in the village. While the installation of three new pumpsets increased the employment of female agricultural labourers marginally, the ownership and use of four new tractors had very much affected the employment of both male and bullock labour between the two survey years. And the change of cropping pattern had very much affected both the hired and family labour available in the village. However, the increased ownership of livestock (in Table 7) in the village between the two survey years had also increased the employment of cowherds. Their number had increased from two to seven between the mid-80s and the early 1990s. They were employed by individual employers by paying mainly cash wages in 1993-94. And cowherds had never been employed on collective basis by paying piece wage rates in this village. The cowherds, in addition to tending cattle, also performed some domestic and agricultural work to their employers. Surprisingly, most of the cowherds belonged to the non-resident upper castes rather than to the resident low castes. That was why they were allowed inside the upper caste households to engage in some domestic work too. Of course, we already observed (in Table 2) that a considerable proportion of (23 out of 61) agricultural labourers also belonged to upper castes in 1993-94. Agriculture in this village was carried on mainly by the employment of casual agricultural labourers on daily wage payment basis. Agricultural labourers were not paid their wages in kind in 1993-94 as in 1985-86. Again, as in 1985-86, the cultivators did not employ any field guards and irrigation workers in 1993-94. And, agricultural labour was bought and sold like a commodity without any patron-client relationship existing between employers and employees.

LABOUR UTILISATION IN AGRICULTURE

The distribution of different types of labour used among the major land operating categories in 1993-94 is shown in Table 11. The table shows the total number of man days (of 8 hours a day) used in the per acre cultivation of paddy as 55.78 days in 1993-94. Compared to 1985-86, it had gone up from 53.54 days to 55.78 days. Thus, there had been only a negligible increase in the total number of man days of labour used in the per acre cultivation of paddy¹¹ in the village over the years. This coupled with the declining gross cropped area of the village had negative implications for the employment and incomes of agricultural labourers to which we will return later in this chapter. Of the different types of labour used per acre at the village level, the table shows that, on an average (weighted), while 29.69 days of hired labour were used, 20.26 days of migrant labour were used. The number of family labour days used in the per acre cultivation of paddy worked out to 5.82 in 1993-94. Between 1985-86 and 1993-94, whereas the number of days of hired labour used per acre remained at about 30, the number of days of migrant labour used per acre had more than doubled. And the increased use of migrant labour and the tractor services led to a sharp reduction in the use of family labour days in the per acre cultivation of paddy between these years. Of course, these are the characteristics associated with the cultivation of HYV paddy which replaced the cultivation of traditional varieties of paddy earlier in the village. Across the categories, the puro tenants used the largest number of labour days while the marginal farmers used the smallest number of labour days in the per acre paddy cultivation. However, these are also the groups which used the large number of own labour days in the per acre cultivation of paddy along with the non-agricultural regular salaried employees in the village in 1993-94. Again, over the categories, while the non-agricultural workers

TABLE 11

**Utilisation of Labour (per acre) in Paddy Cultivation across
Major Categories in Verkadu in 1993-94**

(All per day of 8 hours)

Category of households	No. of HHs operating land	Average number of days of different types of labour used per acre						Total no. of labour days used
		Own labour	Own bullock labour	Hired labour	Hired bullock days	Hired tractor (in minutes)	Migrant labour	
1. Big farmers	4	1	3.50	34.75	—	90	21.50	57.25
2. Medium farmers	3	2.50	2.50	29	2.50	90	22.50	54
3. Small farmers	8	12.67	2.33	27	4.33	45	17.33	57
4. Marginal farmers	17	4	—	27.25	6.50	15	20	51.25
5. Pure tenants	13	13	5.75	23.50	1.50	45	21.75	58.25
6. Non-Agricultural workers with regular salaried employment	15	—	4	38	3	30	20	58
Total or weighted averages	60	5.82	2.94	29.69	3.59	38	20.26	55.78

Source : Field survey (sample)

with regular salaried employment used the largest number of hired labour days, the marginal farmers used the largest number of migrant labour days closely followed by the pure tenants and the big farmers. Nevertheless, substituting traditional varieties of paddy with HIYV paddy had its unmistakable impact on labour use pattern in village agriculture. It had increased the use of migrant labour and tractor services with a simultaneous reduction in the use of family and bullock labour which had negative implications for the employment and incomes of less land operating households in the village in 1993-94.

AGRICULTURAL LABOUR AND EMPLOYMENT

Between 1985-86 and 1993-94, as against the number of male agricultural labourers declining from 27 to 22, the number of female agricultural labourers increased from 31 to 39. As in 1985-86, we also conducted a sample survey of agricultural labour households in 1993-94, specifically to gather information on employment and incomes. Such a survey revealed that whereas a male casual agricultural labourer secured employment for 119 days in 1993-94, a female casual agricultural labourer secured employment for 101 days in the same year. But, compared to 1985-86, while the number of days of employment secured by a male casual agricultural labourer increased by two, the same in the case of a female casual agricultural labourer increased by 37 by 1993-94. Thus, there had been a substantial increase in the employment of female casual agricultural labourers despite the increase in their numbers between the survey years. The increased employment of female agricultural labourers was brought about mainly by the HIYV paddy and the transplanting cultivation under three new pumpsets.

As far as the incomes of casual agricultural labourers from wage employment in agriculture in 1993-94 is concerned, while a male labourer earned about Rs.3100, a female labourer earned about Rs.2300. The total wage income earned by a female casual agricultural labourer was substantially lower in comparison to the wage income earned by a male casual agricultural labourer in 1993-94. This is mainly because of the fact that the female casual agricultural labourers not only secured employment for smaller number of days but also earned lower wage rates even when they were engaged in similar agricultural operations along with men in 1993-94. However, an agricultural labour household consisting of one male and one female casual agricultural labourer could hope to earn about Rs.5400 from agricultural occupations in 1993-94. By contrast, a similar household in 1985-86 earned about Rs.2000. Thus, the agricultural wage incomes for the households had more than doubled between the two survey years.

CHANGES IN MONEY AND REAL WAGE RATES

Table 12 provides the data on changes in money and real wage rates (deflated by rice II sort prices prevailing in the village) paid to casual agricultural labourers between 1985-86 and 1993-94. According to the table, the money wage rates paid to both male and female casual agricultural labourers had more than doubled in almost all agricultural operations between the two survey years. The practice of serving some of the male casual agricultural labourers with meals on the farm was totally discontinued by 1993-94. But the money wage rates paid to male and female casual agricultural labourers in the village in 1993-94 were in conformity with the wage rates paid to the same category in the state in the same year. While they varied from Rs.20 to Rs.30 for males, the same varied in between Rs.15 and Rs.18 for females engaged in different agricultural operations.¹² In fact, the average money wage rates paid to male and female casual agricultural labourers in the village were somewhat higher compared to the same in the state.

TABLE 12
Changes in the Money and Real Wage Rates*
(In terms of rice II sort) paid to Casual Agricultural Labourers
between 1985-86 and 1993-94 in Verkadu

Type of agricultural operation	Money wage rates (in Rs) paid to				Real wage rates (in kgs of rice) paid to			
	Males in		Females in		Males in		Females in	
	1985-86	1993-94	1985-86	1993-94	1985-86	1993-94	1985-86	1993-94
1. Ploughing	12	25	—	—	3.43	3.33	—	—
2. Land levelling and bund trimming	12	25	—	—	3.43	3.33	—	—
3. Fertilising	10+M	25	—	—	3.16	3.33	—	—
4. Sowing	15+M	25	—	—	4.58	3.33	—	—
5. Transplanting	—	—	9	20	—	—	2.57	2.67
6. Weeding	10	24	8	22	2.86	3.20	2.28	2.93
7. Pesticiding	—	25	—	—	—	3.33	—	—
8. Transporting	12	25	—	—	3.43	3.33	—	—
9. Harvesting	13	30	11	27	3.71	4.00	3.44	3.60

* Note : The rice II sort prices went up from Rs.3.50 in 1985-86 to Rs.7.50 in 1993-94 in the retail market and hence the real wage rates were worked out accordingly. To this we have added the actual quantities of rice (300 grams) supplied to the labourers as meals in the farm both in 1985-86 and 1993-94.

Source : Field survey (sample).

The same table also shows the declining real wage rates paid to male casual agricultural labourers in most of the agricultural operations between the two survey years. But the same period had also witnessed the increasing real wage rates paid to female casual agricultural labourers in almost all agricultural operations in which they were engaged. This is brought about mainly by the increased use of tractors in agriculture which virtually competed with male and bullock labour. The increase in demand for female labour had increased the real wage rates paid to them between the two survey years. Also, the increased use of migrant labour did not lead to the declining real wage rates paid to agricultural labourers in some of the major operations like harvesting of paddy. Nevertheless, the discrimination of female agricultural labourers in the payment of wage rates continued even in 1993-94. Of course, the same is also witnessed at the state level in our resurvey year. Almost all wages were paid in cash without any perquisites in the village in 1993-94. And, some of the major operations like transplanting and harvesting were contractualised. While Rs.300 to Rs.400 were paid for transplanting an acre of paddy, Rs.800 to Rs.1000 were paid for harvesting an acre of paddy in 1993-94. These contracts were negotiated directly between the employees and the employers without any middlemen in our resurvey year.

COSTS AND RETURNS IN AGRICULTURE

A) Costs

Based on sample data we have calculated the different costs (A1, A2, B, and C) of cultivation (See Appendix-1) across the categories in the village for the year 1993-94. The same are presented in Table 13. According to the table, the total per acre cost of cultivation of paddy varied from a minimum of Rs.3500 in the case of marginal farmers to a maximum of Rs.4665 in the case of big farmers. Thus, the total per acre cost of cultivation varied over a wide range of Rs.1165 in 1993-94. The average (weighted) per acre total cost of cultivation for all categories in the village (in Table 15) worked out to Rs.3771 in the resurvey year. The same in 1985-86, worked out to Rs.1315. Thus, the total per acre cost of cultivation had gone up by 186.77 per cent between the two survey years. The rise in the per acre cost of cultivation can be attributed both to the change of cultivation practices and to the increased prices of purchased inputs such as chemical fertilisers and pesticides. The doubling of money wage rates paid to casual agricultural labourers had also contributed to the increasing costs of cultivation between the two survey years. The range of variation in the per acre cost of cultivation among the categories had increased much i.e. from a mere Rs.230.96 in 1985-86 to Rs.1165 in 1993-94. This had implications for the incomes earned by different categories of households in the village in the later year. The Cost A1, which largely reflects the working capital requirements of agriculture varied from a minimum of Rs.2650 in the case of marginal farmers to a maximum of Rs.3440 in the case of big farmers. Thus the same groups accounted for the minimum and maximum per acre costs of cultivation of paddy incurred either on cost A1 basis or on cost C basis. However, the range of variation observed with respect to the working capital (cost A1) requirements of agriculture was smaller (Rs.760) in comparison to the range of variation observed with respect to the total cost of cultivation (Rs.1135) incurred by different categories of households on paddy cultivation in 1993-94.

The per acre owned and paid-out costs of cultivation incurred by different categories of farmers in 1993-94 are shown in Table 14. The table shows that the owned cost varied from a minimum of Rs.900 in the case of non-agricultural casual workers to a maximum of Rs.2180 in the case of big farmers. This simply reflected the lack of agriculturally related assets in the case of non-agricultural casual workers and the ownership of all the necessary complementary agricultural assets in the case of big farmers in the village. As far as per acre paid out costs of cultivation are concerned, they varied from a minimum of Rs.2250 in the case of marginal farmers to a maximum of Rs.2620 in the case of non-agricultural casual workers. Again, the variation in the per acre paid-out costs of cultivation simply reflected the extent of ownership and use of agriculturally related assets by different categories of households

TABLE 13

**Average per Acre Costs of Cultivation of Paddy Incurred by
Different Categories in Verkadu in 1993-94**

(All in Rs.)

Item	Big farmers	Medium farmers	Small farmers	Marginal farmers	Pure tenants	Non-agri with salaried employment	Agri. labo- rers	Non- agri casual workers	Artisanal and service house- holds
1. Hired human labour (casual)	1400	1275	1100	1175	1125	1450	1150	1300	-
2. Hired human labour (permanent)	-	-	-	-	-	-	-	-	-
3. Owned bullock labour	90	60	60	-	150	100	-	-	-
4. Hired bullock labour	-	60	100	175	40	75	200	200	-
5. Tractor (Owned)	400	-	-	-	-	-	-	-	-
6. Tractor (Hired)	100	300	150	50	150	100	100	150	-
7. Seeds (Owned)	175	170	170	175	175	90	-	-	-
8. Seeds (Purchased)	-	-	-	-	-	80	170	170	-
9. Domestic manures :									
a) owned	100	100	100	50	150	50	100	-	-
b) Purchased	-	-	-	-	-	-	-	-	-
10. Chemical fertilisers and pesticides	650	750	650	650	700	700	600	600	-
11. Depreciation	350	75	90	-	110	50	-	-	-
12. Land tax	25	25	25	25	25	25	25	25	-
13. Irrigation charges	-	-	-	100	100	100	100	100	-
14. Water cess	-	-	-	-	-	-	-	-	-
15. Interest on working capital									
a) owned	150	75	120	125	150	150	50	100	-
b) borrowed	60	-	110	75	120	-	150	75	-
16. Miscellaneous expenditures	40	30	40	50	30	40	50	50	-
17. Cost A1	3440	2920	2715	2650	3025	3010	2695	2770	-
18. Rent on leased in-land	-	-	-	-	750	-	-	-	-
19. Cost A2	3440	2920	2715	2650	3775	3010	2695	2770	-
20. Rent value of owned land	750	750	750	750	-	750	750	750	-
21. Interest on fixed capital (excluding land)	450	-	-	-	-	-	-	-	-
22. Cost B	4640	3670	3465	3400	3775	3760	3445	3520	-
23. Value of family labour	25	75	325	100	325	-	300	-	-
24. Cost C	4665	3745	3790	3500	4100	3760	3745	3520	-

Source : Field survey (sample).

TABLE 14

**Average per acre Owned and Paid-out Costs of Cultivation of Paddy
Incurred by Different Categories in Verkadu in 1993-94**

(All in Rs.)

ITEM	Big farmers		Medium farmers		Small farmers		Marginal farmers		Pure tenants	
	Owned	Paid-out	Owned	Paid-out	Owned	Paid-out	Owned	Paid-out	Owned	Paid-out
1. Human labour	25	1400	75	1275	325	1100	100	1175	325	1125
2. Bullock labour	90	—	60	60	60	100	—	175	150	40
3. Tractor services	400	—	—	300	—	150	—	50	—	150
4. Seed	175	—	170	—	170	—	175	—	175	—
5. Domestic manure	100	—	100	—	100	—	50	—	150	—
6. Chemical fertilisers and pesticides	—	650	—	750	—	650	—	650	—	700
7. Irrigation charges	—	—	—	—	—	—	—	100	—	100
8. Water cess	—	—	—	—	—	—	—	—	—	—
9. Land tax	—	25	—	25	—	25	—	25	—	25
10. Depreciation	—	350	—	75	—	90	—	—	—	110
11. Interest on working capital	150	60	75	—	120	110	125	75	150	120
12. Interest on fixed capital	450	—	—	—	—	—	—	—	—	—
13. Land rent	750	—	750	—	750	—	750	—	750	—
14. Miscellaneous expenditures	40	—	30	—	40	—	50	—	30	—
Total	2180	2485	1260	2485	1565	2225	1250	2250	1730	2370
As %age to the category's total cost of cultivation	46.73	53.27	33.64	66.36	41.29	58.71	35.71	64.29	42.20	57.80

(Table continues overleaf)

TABLE 14 (Continued)

(All in Rs.)

ITEM	Non-agricultural workers with regular salaried employment		Agricultural labourers		Non-agricultural casual workers		Artisanal and service IHS	
	Owned	Paid-out	Owned	Paid-out	Owned	Paid-out	Owned	Paid-out
1. Human labour	—	1450	300	1150	—	1300	—	—
2. Bullock labour	100	75	—	200	—	200	—	—
3. Tractor services	—	100	—	100	—	150	—	—
4. Seed	90	80	—	170	—	170	—	—
5. Domestic manure	50	—	100	—	—	—	—	—
6. Chemical fertilisers and pesticides	—	700	—	600	—	600	—	—
7. Irrigation charges	—	100	—	100	100	100	—	—
8. Water cess	—	—	—	—	—	—	—	—
9. Land tax	—	25	—	25	—	25	—	—
10. Depreciation	—	50	—	—	—	—	—	—
11. Interest on working capital	150	—	50	150	100	75	—	—
12. Interest on fixed capital	—	—	—	—	—	—	—	—
13. Land rent	750	—	750	—	750	—	—	—
14. Miscellaneous expenditures	40	—	50	—	50	—	—	—
Total	1180	2580	1250	2495	900	2620	—	—
As %age to the category's total cost of cultivation	31.38	68.62	33.38	66.62	25.57	74.43	—	—

Source : Field survey (sample).

in the village. In relative terms, while the assetless non-agricultural casual workers incurred about three-fourths of the total cost as paid-out cost, all the asset owning big farmers incurred roughly half of their total per acre costs as owned and paid-out in our resurvey year.

B) Returns

The profitability of agriculture to different categories of households depends on the per acre yield rate achieved, prices secured for outputs and the per acre costs of cultivation incurred by them. These factors also influence the efficiency of agriculture to different categories of farmers in the village in 1993-94. The relevant data are provided in Table 15. According to the table, the average (weighted) per acre yield rate of paddy in 1993-94 worked out to 16.43 bags (of 80 kgs each) of paddy. The same in 1985-86 was 12.33 bags of paddy. Thus, there had been a substantial increase in the per acre yield rate of paddy by about one-third (33.25 per cent) during a period of eight years. However, the per acre yield rate of paddy achieved in the village in 1993-94 was far lower in comparison to the same (23.65 bags) achieved at the state level in 1991-92¹³. The average price (weighted) secured per bag of paddy by all categories in 1993-94 worked out Rs.309.10¹⁴. The same in 1985-86 worked out to Rs.139.42. Thus, the average price secured per bag of paddy between the two survey years had gone up by 121.70 per cent. Hence as against the per acre yield rate of paddy going up by one-third, the average price secured per bag of paddy in the market had more than doubled between the two survey years. And, these had implications for the incomes earned by different categories of households from agricultural occupations in 1993-94. The net income earned per acre from the cultivation of paddy in the village in 1993-94 worked out to Rs.1574.65. The same in 1985-86, was Rs.845.64. Thus the profitability of paddy cultivation had gone up by 86.20

TABLE 15

**Gross and Net Incomes Earned from an Acre of Paddy Cultivation
among Different Categories in Verkadu in 1993-94**

Category of households	No. of HHs operating land	Average yield per acre (in bags)	Average price obtained per bag (in Rs.)	Value of paddy obtained per acre	Value of hay obtained acre acre (in Rs.)	Gross value of output obtained per acre (in Rs.)	Average per acre total cost of cultivation (Cost C)	Net income earned per acre (in Rs.)	Input-output ratio (i.e cost-gross value of output)
1. Big farmers	4	20	350	7000	300	7300	4665	2635	0.64
2. Medium farmers	3	18	330	5940	270	6210	3745	2465	0.60
3. Small farmers	8	17	320	5440	250	5690	3790	1900	0.67
4. Marginal farmers	17	16	300	4800	250	5050	3500	1550	0.69
5. Pure tenants	13	17	320	5440	250	5690	4100	1590	0.72
6. Agricultural labourers	6	14	300	4200	250	4450	3745	705	0.84
7. Non-agricultural workers with regular salaried employment	15	17	300	5100	250	5350	3760	1590	0.70
8. Non-agricultural casual workers	12	15	300	4500	250	4750	3520	1230	0.74
9. Artisanal and service households	—	—	—	—	—	—	—	—	—
Weighted averages or total	78	16.43	309.10	5092.40	253.30	5345.70	3771.05	1574.65	0.70

Source : Field survey (sample)

per cent. And, across the categories, the big farmers not only achieved the highest per acre yield rate of paddy but they also earned the highest per acre net income in comparison to all other categories in the village in 1993-94. The same group also secured the highest price per bag of paddy sold in the market indicating the advantage taken by them even in the product market. Hence the table reveals the positive relationship prevailing between the farm size and productivity in our resurvey year.¹⁵ The input-output ratio (total cost divided by the gross value of output) which indicates the level of efficiency of agriculture reveals it to be 0.70 in 1993-94. By contrast, it was 0.61 in 1985-86. Hence it is surprising to note that the overall efficiency of agriculture declined (while the higher input-output ratio reveals the lower efficiency of agriculture, the lower input-output ratio reveals the higher efficiency of agriculture) with the introduction of HYV seed along with the mechanisation of agriculture between the two survey years. However, among the categories, the medium farmers were found to be cultivating their crops in a most efficient way followed by the big farmers in the village.

We have calculated the per acre net incomes earned from paddy cultivation among the categories on different cost concepts (A1, A2, B and C) in 1993-94. In addition, we have also calculated the per acre net incomes earned across the categories on paid-out cost basis. This is particularly important because it reveals the availability of cash incomes on hand for further investments in agriculture. The relevant data are presented in Table 16. The table shows that, on an average (weighted), while the per acre net income earned on the basis of total cost (Cost C) worked out to Rs.1574.65, the same on the basis of paid out cost worked out to Rs.2918.85 in 1993-94. Thus the net income earned per acre on the basis of paid-out cost was almost double the net income earned per acre on the basis of total cost. The difference between these two incomes indicates that nearly half of the income from agricultural production was earned by the use of owned inputs such as land and livestock, tractors, pumpsets, family labour and capital available in the cultivator households in our resurvey year. Further, the same table reveals the per acre net income earned from paddy cultivation as Rs.2485.15, Rs.2357.65 and Rs.1712.65 respectively on Cost A1, Cost A2 and Cost B basis in 1993-94. And, over the categories, all asset owning big farmers earned the highest per acre net income from paddy cultivation on any cost concept followed by medium farmers in the village. Hence, both for achieving the high efficiency of agriculture and for earning high income from crop production, the ownership of agriculturally related assets became crucial for the households in 1993-94.

INCOME FROM AGRICULTURAL PRODUCTION

The data on area, production and productivity of paddy across the categories in the village in 1993-94 are presented in Table 17. According to the table, while the total operated area was 221.54 acres, the gross cropped area was 273.70 acres. The average intensity of cropping at the village level worked out to 1.24 per cent in 1993-94. This is close to the figures obtained in the village itself (1.29 per cent) in 1985-86 and at the district (1.28 per cent) and state (1.22 per cent) levels in 1991-92. The intensity of cropping achieved by the resident cultivators at 1.24 per cent was considerably higher in comparison to the intensity of cropping achieved by both residents and non-residents (1.04 per cent in Table 10) in the same village in 1993-94. This is because all the three new pumpsets and four tractors were owned and operated by the residents themselves. The estimated total paddy production in the village was 4787.90 bags in 1993-94. The estimated paddy output in 1985-86 was 3643.31 bags. Thus the paddy output between these two years had gone up by about one-third (31.43 per cent). In the same manner, the per acre yield rate of paddy had also gone up by one-third (33.92 per cent) between the two survey years. Thus the increased paddy production in the village was brought about mainly by the increased productivity of paddy rather than by the increased area under paddy between 1985-86 and 1993-94. Among the categories, the group of big farmers not only achieved the highest per acre yield rate of paddy but also accounted for the highest percentage (29.03) of total production in 1993-94. They also accounted for one-fourth of the gross cropped area cultivated with paddy in the same year.

TABLE 16

Different Cost of Cultivation Incurred and Net Incomes Earned per Acre of Paddy
over the Categories in Verkadu in 1993-94

(All in Rs.)

Category of households	No. of house holds operating land	Gross income earned per acre	Cost A1	Net income earned per acre	Cost A2	Net income earned per acre	Cost B	Net income earned per acre	Cost C	Net income earned per acre	Paid-out cost	Net income earned per acre
1. Big farmers	4	7300	3440	3860	3440	3860	4640	2660	4665	2635	2485	4815
2. Medium farmers	3	6210	2920	3290	2920	3290	3670	2540	3745	2465	2485	3725
3. Small farmers	8	5690	2715	2975	2715	2975	3465	2225	3790	1900	2225	3465
4. Marginal farmers	17	5050	2650	2400	2650	2400	3400	1650	3500	1550	2250	2800
5. Pure tenants	13	5690	3025	2665	3775	1915	3775	1915	4100	1590	2370	3320
6. Agricultural labourers	6	4450	2695	1755	2695	1755	3445	1005	3745	705	2495	1955
7. Non-agricultural workers with regular salaried employment	15	5350	3010	2340	3010	2340	3760	1590	3760	1590	2580	2770
8. Non-agricultural casual workers	12	4750	2770	1980	2770	1980	3520	1230	3520	1230	2620	2130
9. Artisanal and service households	—	—	—	—	—	—	—	—	—	—	—	—
Weighted averages or Total	78	5345.70	2860.55	2485.15	2988.05	2357.65	3633.05	1712.65	3771.05	1574.65	2426.85	2918.85

Source : Field survey (sample).

TABLE 17

**Estimated Area and Production of Paddy Across
Different Categories in Verkadu in 1993-94**

Category of households	Total number of HHs	Total operated area (in acres)	Average intensity of cropping	Gross cropped area (in acres)	Average yield of paddy (in bags)	Total production (in bags)	As percentage to the total
1. Big farmers	4	51.48 (23.24)	1.35	69.50 (25.39)	20	1390	29.03
2. Medium farmers	3	22.00 (9.93)	1.25	27.50 (10.05)	18	495	10.34
3. Small farmers	9	36.90 (16.66)	1.19	43.91 (16.04)	17	746.47	15.59
4. Marginal farmers	17	37.13 (16.76)	1.22	45.30 (16.55)	16	724.80	15.14
5. Pure tenants	13	34.70 (15.66)	1.31	45.46 (16.61)	17	772.82	16.14
6. Agricultural labourers	22	5.00 (2.26)	1.54	7.70 (2.81)	14	107.80	2.25
7. Non-agricultural workers with regular salaried employment	34	18.03 (8.14)	1.00	18.03 (6.59)	17	306.51	6.40
8. Non-agricultural casual workers	67	16.30 (7.36)	1.00	16.30 (5.96)	15	244.50	5.11
9. Artisanal and service households	—	—	—	—	—	—	—
Total	171	221.54	1.24	273.70	17.49*	4787.90	100.00

Note : Figures in brackets indicate the percentages to the respective village totals

* Obtained from the estimated total output and gross cropped area cultivated with paddy in 1993-94

Source : Field survey (sample)

The estimates of total net incomes earned from paddy production by different categories of households in 1993-94 are provided in Table 18. These are calculated on the basis of both total costs and paid-out costs incurred by cultivators in our resurvey year. While the total income earned from paddy production on total cost basis worked out to Rs.5,30,990.60, the same on the basis of paid-out cost worked out to Rs.9,66,710.95 in 1993-94. The total net income earned from paddy production on total cost basis in 1985-86 worked out to Rs.2,71,041.57. Thus, the total net income earned from paddy production on total cost basis between these two years had gone up by 95.91 per cent. Over the categories, a few big farmers themselves accounted for about one-third of the total net income earned from paddy production in the village either on total cost basis or on paid-out cost basis in 1993-94. Thus, their share of total income (34.49 per cent) was considerably higher compared to their share of (29.03 per cent) total paddy production indicating the advantage taken by them even in the product market. However, 74 out of 78 land operating households in the village accounted for about 71 per cent of paddy production and for about 65 per cent of net income earned from paddy cultivation in 1993-94. And, even among the categories, agricultural labourers, non-agricultural workers with regular salaried employment and non agricultural casual workers accounted only for 13.76 per cent of paddy production and 10.31 per cent of income earned from paddy cultivation in the village in 1993-94. Thus the agrarian economy was very much dominated by the regular cultivating households, that too by the big farmers in the village.

TABLE 18

**Estimates of Total Net Incomes Earned from Paddy Cultivation by
Each Category in Verkadu in 1993-94**

Category of households	Gross cropped area (in acres)	Net income earned per acre on the basis of Cost C (in Rs.)	Total income earned by the category (in Rs.)	As per centage to the village total income	Net income earned per acre on the basis of paid-out cost (in Rs.)	Total income earned by the category (in Rs.)	As %age to the village total income
1. Big farmers	69.50 (25.39)	2635	183132.50	34.49	4815	334642.50	34.62
2. Medium farmers	27.50 (10.05)	2465	67787.50	12.77	3725	102437.50	10.60
3. Small farmers	43.91 (16.04)	1900	83429	15.71	3465	152148.15	15.74
4. Marginal farmers	45.30 (16.55)	1550	70215	13.22	2800	126840	13.12
5. Pure tenants	45.46 (16.61)	1590	72281.40	13.61	3320	150927.20	15.61
6. Agricultural labourers	7.70 (2.81)	705	5428.50	1.02	1955	15053.50	1.55
7. Non-agricultural workers with regular salaried employment	18.03 (6.59)	1590	28667.70	5.40	2770	49943.10	5.17
8. Non-agricultural casual workers	16.30 (5.96)	1230	20049	3.78	2130	34719	3.59
9. Artisanal and service households	—	—	—	—	—	—	—
Total	273.70	—	530990.60	100.00	—	966710.95	100.00

Note : Figures in brackets are percentages to the village total

Source : Estimates based on the filed data (sample)

MARKETING AND DISTRIBUTION OF AGRICULTURAL PRODUCE

With increased paddy production, its marketing and distribution had also changed between 1985-86 and 1993-94. As against the non-resident merchants coming to the village and buying paddy, especially in the lean agricultural seasons in the mid-80s, by early 1990s some of the big farmers started selling large quantities of paddy both in post-harvest and lean agricultural seasons, directly to the merchants in the neighbouring towns, who also owned rice mills there. For this purpose, they transported paddy to the neighbouring towns through their newly acquired tractors and trucks. By doing so, they did not only earn the transportation charges, but they also secured higher prices for the paddy sold at the rice mills in the neighbouring towns, especially at Red Hills which is 25 kilometres away from the village. Hence the large producers of paddy became much more price and market conscious in the early 1990s compared to the mid-80s.

The quantities of paddy distributed among various items of production and consumption and marketed in 1993-94 across the categories are presented in Table 19. According to the table, out of the total paddy production of 4787.90 bags, while 1487.79 bags were distributed, the remaining 3300.11 bags were marketed in 1993-94. Whereas the absolute quantity of paddy distributed had gone up slightly from 1292.74 bags

TABLE 19

**Categorywise Estimates of Production and
Distribution of Paddy in Verkadu in 1993-94**

Category of households	No. of HHs operating land	Area under paddy (in acres)	Production of paddy (in bags)	Distribution (in bags)					Total Q of paddy distributed (in bage)	As %age to the category's total production	Marketing						A.V.Q. of marketable surplus per land operating on HH (in bags)
				Q retained as seed	Q retained for consumption	Q paid as wages to ALs	Q paid to artisanal & service HHs	Q paid as rent			Q sold in the post-harvest season (in bags)	As %age to the category's prodn.	Q sold in the lean season	As %age to the category's prodn.	Market able surplus (in bags)	As %age to the category's prodn.	
1. Big farmers	4	69.50	1390	30.41	87	-	-	30.38	147.79	10.63	602.21	43.32	640	46.04	1242.21 (37.64)	89.37	310.55
2. Medium farmers	3	27.50	495	12.03	57	-	-	9.38	78.41	15.84	256.59	51.84	160	32.32	416.59 (12.62)	84.16	138.86
3. Small farmers	8	43.91	746.47	19.21	162.72	-	-	22.02	203.95	27.32	278.52	37.31	264	35.37	542.52 (16.44)	72.68	67.82
4. Marginal farmers	17	45.30	724.80	19.82	207	-	-	35.69	262.51	36.22	222.29	30.67	240	33.11	462.29 (14.01)	63.78	27.19
5. Pure tenants	13	45.46	772.82	19.89	198	-	-	91.04	308.93	39.97	203.89	26.38	260	33.64	463.89 (14.06)	60.03	35.68
6. Agricultural labourers	6	7.70	107.80	3.37	71.10	-	-	17.33	91.80	85.16	16	14.84	-	-	16 (0.49)	14.84	2.67
7. Non-agricultural workers with regular salaried employment	15	18.03	306.51	7.89	226.35	-	-	2.50	236.74	77.24	69.77	22.76	-	-	69.77 (2.11)	22.76	4.65
8. Non-agricultural casual workers	12	16.30	244.50	7.13	134.28	-	-	16.25	157.66	64.48	86.84	35.52	-	-	86.84 (2.63)	35.52	7.24
9. Artisanal and service	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	78	273.70	4787.90	119.75	1143.45	-	-	224.59	1487.79	-	1736.11	-	1564	-	3300.11	-	42.31
As percentage to the total production	-	-	-	-	-	-	-	-	31.07	-	36.26	-	32.67	-	68.93	-	-

Note : Figures in brackets indicate the percentage of category's marketable surplus in the total village marketable surplus in 1993-94.

No. : Number, HHs : Households, Q : Quantity.

Source : Estimates based on the field data (sample)

to 1487.79 bags, the absolute quantity of paddy marketed had gone up considerably from 2350.57 bags to 3300.11 bags between the two survey years. Hence the village witnessed an increasing marketing activity of paddy over the years thanks to the increasing productivity of land consequent to the introduction of HYV seed in the early 1990s. In relative terms, out of the total paddy production of 4787.90 bags, while 31.07 per cent was distributed, the remaining 68.93 per cent was marketed in 1993-94. Thus, two-thirds of paddy production entered the market in our resurvey year. Again, out of the total paddy production, while 36.26 per cent was marketed in the post-harvest season, 32.67 per cent was marketed in the lean agricultural season. And the marketable surplus of paddy had gone up both in absolute and relative terms between the two survey years. And compared to 1985-86, the quantity of paddy marketed in the post-harvest season itself had gone up both in absolute and relative terms. Of course, HYV paddy like traditional varieties of paddy cannot be stored for long without damage and loss of weight. Hence the farmers had to sell more and more of HYV paddy in the post-harvest season itself. And, across the categories, a very high proportion of paddy produced by the big farmers was marketed closely followed by the medium farmers in the village in 1993-94. The average quantity of paddy marketed per household had also gone up considerably from 30.93 bags in 1985-86 to 42.31 bags in 1993-94. And all these indicate the increased cash incomes available in cultivators hands by 1993-94.

The changing distribution of paddy between 1985-86 and 1993-94 is given in Table 20. The table shows the increased quantities of paddy distributed and marketed between these years. But compared to 1985-86, agricultural labourers and the artisanal and service households were not provided with paddy

TABLE 20
Changes in the Distribution of Total Paddy
between 1985-86 and 1993-94 in Verkadu

Item of production and distribution	1985-86		1993-94	
	Quantities (in bags)	As per centage to the total production	Quantities (in bags)	As per centage to the total production
I: Production				
1. Total number of households operating land	77	—	78	—
2. Gross cropped area(in acres)	278.96	—	273.70	—
3. Average yield per acre(in bags)	13.06	—	17.49	—
Total production	3643.31	—	4787.90	—
II: Distribution				
1. As seed	120.43	3.31	1193.75	2.50
2. For self consumption	753.89	20.69	1143.45	23.88
3. Payments to artisanal and service households	41.81	1.15	—	—
4. Payments to agricultural labourers :				
a) Total	92.30	2.53	—	—
b) for casual labourers	42.30	—	—	—
c) for permanent servants	24.00	—	—	—
d) for cowherds	12.00	—	—	—
e) for migrant labourers	14.00	—	—	—
5. Payments towards land rent	284.31	7.80	224.59	4.69
6. Total distribution of paddy	1702.59	35.48	1487.79	31.07
7. Total marketable surplus	6122.45	64.52	3300.11	68.93

Source : Field surveys (sample)

in 1993-94. The changing distribution of agricultural produce had affected these groups very much. While the quantity of paddy allotted for seed purposes remained more or less the same in both the survey years, the quantity of paddy allotted for consumption purposes had gone up substantially thanks to the increased population of the village between the two survey years. The quantity paid as rent had also declined considerably due to the declining area under tenancy. This happened despite the increased rent charged per acre between the two survey years. However, the non payment of any wages in kind either to artisanal and services persons or to agricultural labourers contributed to some extent to the increased marketable surplus of paddy in the village over the years.

SOURCES OF AGRICULTURAL INCOME

So far we are only discussing the income earned from crop production thus leaving out other sources of agricultural incomes earned by the households both within and outside the village. But, 97 to 99 per cent of agricultural income is always earned from sources within the village. And only one to three per cent of agriculture income was earned by the residents outside the village. Of all the categories, only the big farmers earned some agricultural income by owning and cultivating small extents of land in one of the neighbouring villages both in 1985-86 and 1993-94. And agricultural labourers never worked in other villages even in lean agricultural seasons. Instead, they preferred either to work in non-agricultural occupations available outside the village or idle away their time during the long lean agricultural seasons. However, this applies more to the male agricultural labourers rather than to female agricultural labourers in the village.

The sourcewise estimates of agricultural incomes among the households in 1993-94 (for the estimates of agricultural and non- agricultural incomes, see Appendix-2) are given in Table 21. According to the table, while the sources within the village accounted for 96.99 per cent of agricultural income, the sources outside the village accounted for the remaining 3.01 per cent of agricultural income in 1993-94. Compared to 1985-86, the agricultural income earned outside the village, especially by the big farmers had gone up very much both in absolute and relative terms. This happened due to the resumption of cultivation by the owners who leased-out their lands earlier to cultivators from neighbouring villages. The purchases of new tractors facilitated their cultivation of lands even in the neighbouring villages by 1993-94. Of all the categories in the village, only the artisanal and service households did not earn any agricultural income either within or outside the village.

The total agricultural income of the village increased from Rs.6,42,511.47 in 1985-86 to Rs.11,64,569.40 in 1993-94. Thus the agricultural income of the village went up by 81.25 per cent between these two years. Between 1985-86 and 1993-94, whereas the per household agricultural income increased from Rs.5019.62 to Rs.6810.35, the per capita agricultural income increased from Rs.1024.41 to Rs.1526.98. In other words, as against the per household agricultural income increasing by 35.67 per cent, the per capita agricultural income increased by 49.06 per cent between the two survey years.

Of all the sources of agricultural incomes to the households within the village in 1993-94, cultivation of owned land contributed the largest source of income (32.50 per cent) followed by hiring-out labour (15.77 per cent). Thus, these two sources accounted for little less than half (48.27 per cent) of agricultural income earned in the village in 1993-94. Of course, each of these two sources emerged as the major source of income earned respectively by cultivators and agricultural labourers in the village. The income earned from hiring-out labour. Specifically by the group of agricultural labourers worked out to 13.5 per cent of agricultural income in our resurvey year. The same in 1985-86, worked out to 6.23 per cent. Thus the agricultural income earned by landless labourers increased substantially both in absolute and relative terms despite the declining gross cropped area and the tractorisation of agriculture between the two survey years. Of course, the substitution of traditional varieties of paddy by HYV paddy and the installation of new pumpsets had more than offset the negative effects of tractorisation on employment and incomes of agricultural labourers

in the village. Of all the other sources of agricultural incomes, the tenancy (both leasing-in and leasing-out) accounted for 15.71 per cent. The supply of owned inputs to agriculture other than land, labour and tractor contributed to about one-tenth of the agricultural income in 1993-94. And the sale of pumpset water and the hiring-out of tractor services which were the new sources of incomes for a few households, accounted for three per cent of agricultural income in our resurvey year.

Among the categories, a few big farmers themselves earned about one-third of agricultural income with the remaining 167 households earning the rest of about two-thirds of income in 1993-94. And no other category earned more than 15 per cent of agricultural income in the same year. Again, over the categories, with the exception of non-agricultural workers with regular salaried employment, non-agricultural casual workers and the artisanal and service households; all others earned more than the village average per household and per capita agricultural income in 1993-94. However, Table 21 reveals the skewed distribution of agricultural

TABLE 21
Sourcewise Estimates of Agricultural Incomes Earned by
Different Categories in Verkadu in 1993-94

(All in Rs.)

Category of households	No. of HHs	Agricultural Incomes earned within the village from the						
		Cultivation of owned land (on Cost C basis)	Cultivation of leased in land (on Cost C basis)	Rental income earned from the cultivation of owned land	Rental income earned from the leased-out land	Sale of use of palm products	Collection of fuels from the common lands	Self-employment in agriculture
1. Big farmers	4	151117.25	32015.25	43011	11102.25	--	--	1737.50
2. Medium farmers	3	58543.75	9243.75	17812.50	--	--	--	2062.50
3. Small farmers	9	66699.50	16731.40	26328.75	4066.88	--	--	14270.75
4. Marginal farmers	17	48088.13	22124.70	23268.45	--	625	--	4530
5. Pure tenants	13	14372.01	57904.62	6779.25	--	2500	--	14774.50
6. Agricultural labourers	22	542.85	4885.65	577.50	--	--	--	2310
7. Non-agricultural workers with regular salaried employment	34	27077.70	1590	12772.50	10346.80	--	--	--
8. Non-agricultural casual workers	67	12054	7995	7350	3931.75	--	--	--
9. Artisanal and service households	2	--	--	--	--	--	--	--
Total	171	378495.19	152490.37	137899.95	30447.68	3125	--	39685.25
As percentage to the total production	--	32.50	13.09	11.84	2.62	0.27	--	3.41

(Table continues overleaf)

Note : HH : Households.

TABLE 2 (Continued)

(All in Rs.)

Category of households	Agricultural Incomes earned within the village from the							
	Hiring out labour	Owned bullock labour	Hiring out bullocks	Use of own tractor	Hiring out tractor	Sale of pumpset water for irrigation	Supply of owned inputs to agriculture other than land, labour and tractor	Agricultural income earned within the village
1. Big farmers	—	6255	—	27800	21700	10800	32317	337855.25
2. Medium farmers	—	1650	—	—	—	2440	10312	102064.50
3. Small farmers	4275	2634	3500	—	—	—	18880	157986.28
4. Marginal farmers	21777	—	—	—	—	—	18120	138533.28
5. Pure tenants	—	6819	5837	—	—	—	22957	131943.38
6. Agricultural labourers	157615	—	—	—	—	—	1540	167471
7. Non-agricultural workers with regular salaried employment	—	1803	—	—	—	—	5950	60040
8. Non-agricultural casual workers	—	—	—	—	—	—	2445	33675.75
9. Artisanal and service households	—	—	—	—	—	—	—	—
Total	183667	19161	9337	27800	21700	13240	112521	1129569.40
As percentage to the total production	15.77	1.64	0.80	2.39	1.86	1.14	9.66	96.99

(Table continues overleaf)

TABLE 2 (Continued)

(All in Rs.)						
Category of households	Agricultural income earned outside the village	Total agricultural income earned	As percentage of the total village agricultural income	Average agricultural income earned per HH	H.H. size	Per capita agricultural income earned in 1993-94
1. Big farmers	35000	372855.25	32.02	93213.81	7.25	12857.08
2. Medium farmers	—	102064.50	8.76	34021.50	6.33	5374.64
3. Small farmers	—	157986.28	13.57	17554.03	6.78	2589.09
4. Marginal farmers	—	138533.28	11.90	8149.02	4.06	2007.15
5. Pure tenants	—	131943.38	11.33	10149.50	5.08	1997.93
6. Agricultural labourers	—	167471	14.38	7612.32	3.95	1927.17
7. Non-agricultural workers with regular salaried employment	—	60040	5.15	1765.88	5.03	351.07
8. Non-agricultural casual workers	—	33675.75	2.89	502.62	3.73	134.75
9. Artisanal and service households	—	—	—	—	5.00	—
Total	35000	1164569.40	100.00	6810.35	4.46	1526.98
As percentage to the total production	3.01	100.00				

Source : Estimates based on the filed data (sample).

income among the households in the same year. While big farmers earned, on an average, Rs.93,213, all other categories of households earned less than even Rs.35,000 per household in 1993-94. Nevertheless, the calculation of Gini coefficient for the purpose revealed it to be 0.6891. And between 1985-86 and 1993-94, the concentration of agricultural income had gone up markedly with the Gini coefficients respectively showing 0.5663 and 0.6891. The partial modernisation of agriculture was both a cause and consequence of increased agricultural income concentration in the village.

CHAPTER IV

NON-AGRARIAN ECONOMY OF THE VILLAGE

Between 1985-86 and 1993-94, the village witnessed greater diversification of its economy with 101 out of 171 households depending on non-agricultural occupations available mainly outside the village for their major source of income. The percentage of households depending on non-agricultural occupations had gone up considerably from 46.09 to 60.23 between these years. And the number of non-agricultural workers increased from 60 in 1985-86 to 161 in 1993-94 representing an increase of 168.33 per cent.¹⁶ In the total workforce of the village, while non-agricultural workers accounted for 57.91 per cent, the agricultural workers accounted for the remaining 42.09 per cent (in Table 4). Hence judging by the percentages of households and workers depending on non-agricultural occupations available outside the village for their livelihoods, the village can be termed substantially a non-agricultural one rather than an agricultural one in 1993-94. In the mid-80s, we found this village as mainly an agricultural one because about 54 per cent of the households and more than two-thirds of the total workforce, then, depended on agricultural occupations available within it. Since the number of workers depending on agricultural occupations remained more or less the same both in 1985-86 and 1993-94, the increased workforce between these two years had opted for the non-agricultural occupations available mainly outside the village even while residing in the village. It is also interesting to note that out of 161 non-agricultural workers in our resurvey year, only 14 were females, that too they were engaged in low wage casual employment such as sweepers in railway station and factories, ayas in Balwadis and as cooks in noon-meal centres etc. Hence the diversification of the village economy was very much restricted to the adult male workers of the village rather than to the adult female workers. Further, the caste composition of non-agricultural workers in 1993-94 reveals that only 12.42 per cent of them belonged to the scheduled castes and tribes (in Table 2) while 87.58 per cent of them belonged to the upper castes in the village. Interestingly, more than half of the non-agricultural workers belonged to a particular upper caste group of Naickers in the village in our resurvey year. Hence the upper caste households were very much in the forefront of the diversification of the village economy over the years.

Out of 161 non-agricultural workers in the village, whereas 34 were engaged in regular salaried employment, the remaining 127 were engaged in low wage paid casual occupations available outside the village. Between 1985-86 and 1993-94, while the number of salaried employees had gone up from 14 to 34, the number of casual workers engaging in non-agricultural occupations had gone up from 46 to 127. Thus, there had been a sharp increase in the number of workers engaging in low wage non-agricultural casual occupations. And, this group consisted mostly of the uneducated, unskilled, landless workers in the village. On the contrary, the salaried employees group consisted of the educated, skilled and landed upper caste workers in the village in 1993-94. Further, out of 34 salaried employees, two worked within the village as school teachers, while the remaining 32 worked in the neighbouring towns and Madras city as industrial workers and as government office staff in 1993-94. Out of 127 non-agricultural casual workers in the same year, whereas seven of them worked within the village as cooks, ayas and petty shop keepers, the remaining 120 worked mainly in the nearby industry and in the urban informal sector. In fact, they engaged in a variety of non-agricultural occupations available outside the village. Though, there came up an ice factory, a plywoods factory and two petrol bunks within the village, they did not offer any regular salaried or casual employment to the adult workers of the village. Other than these establishments started by the non-resident entrepreneurs within the village, no resident had established any worthwhile non-agricultural enterprise within the village even by the resurvey year. However, one resident big farmer started a poultry farm and wound it up soon because the enterprise ran into loss between the two survey years. Thus, not only the entrepreneur came from outside the village but also they brought their own workers with them. It is a pity to note that despite a phenomenal increase in the number of non-agricultural workers in the village, none of them emerged as a non-agricultural entrepreneurs starting a factory of his own.

However, the entry of non-agricultural entrepreneurs into the village, between the survey years, had very much pushed up the prices of land used for non-agricultural purposes. Of course, the incomes earned from the sale of such land by a few households had been spent on the purchases of tractors and lorries in the early 1990s.

The sourcewise distribution of non-agricultural income earned by different categories of households in 1993-94 are presented in Table 22. According to the table, the total non- agricultural income of the village in 1993-94 was Rs.17,60,620. The same in 1985-86 was Rs.4,05,939.23. Thus the total non- agricultural income of the village went up by four to five times, during a period of 8 years, thanks to the increasing number of workers participating in non-agricultural occupations available outside the village. Between 1985-86 and 1993-94, while the percentage of non-agricultural income contributed by the sources within the village increased from 10.63 to 13.85, the percentage of non-agricultural income contributed by the sources outside the village declined negligibly from 89.37 to 86.15. Of the sources within the village, the rearing of livestock and government employment and pensions emerged as the major sources of non- agricultural income by 1993-94. And out of the non-agricultural sources of incomes earned outside the village, the regular salaried employment contributed the most with 44.12 per cent followed by casual labour occupations with 37.48 per cent in our resurvey year. Outside trade and transport services provided less than five per cent of the non-agricultural income.

TABLE 22
Sourcewise Estimates of Non-agricultural Incomes Earned by
Different Categories in Verkadu in 1993-94

Category of households	Sources of Non-agricultural Incomes within the village						Non-agri cultural income earned within the village
	No. of HHs	Rearing live stock	Money-lending	Trade	Services	Govt. employment & pensions	
1. Big farmers	4	8100	18360	—	—	—	26460
2. Medium farmers	3	9400	—	—	—	—	9400
3. Small farmers	9	18200	—	—	—	—	18200
4. Marginal farmers	17	14000	—	—	—	—	14000
5. Pure tenants	13	10800	—	—	—	—	10800
6. Agricultural labourers	22	13800	—	—	—	900	14700
7. Non-agricultural workers with regular salaried employment	34	27900	—	—	—	104400	132300
8. Non-agricultural casual workers	67	9900	—	5400	—	2700	18000
9. Artisanal and service households	2	—	—	—	—	—	—
Total	171	112100	18360	5400	—	108000	243860
As percentage to the total	—	6.37	1.04	0.31	—	6.13	13.85

(Table continues overleaf)

No : Number
HH : Households

TABLE 22 (Continued)

(All in Rs.)

Category of households	Non-agricultural income earned outside the village			Non-agricultural income earned outside the village	Total non-agricultural income earned	As percentage to the total	Average non-agricultural income earned per HH in 1993-94	House hold size	Per capita non-agricultural income
	Regular salaried employment	Trade transport services	Casual labour occu-						
1. Big farmers	—	80000	40000	120000	146460	8.32	36615	7.25	5050.34
2. Medium farmers	—	—	18000	18000	27400	1.56	9133.33	6.33	1442.86
3. Small farmers	—	—	27000	27000	45200	2.57	5022.22	6.78	740.74
4. Marginal farmers	18000	—	25000	43000	57000	3.24	3352.94	4.06	825.84
5. Pure tenants	14400	—	22000	36400	47200	2.68	3630.76	5.08	714.71
6. Agricultural labourers	—	—	9000	9000	23700	1.34	1077.27	3.95	272.73
7. Non-agricultural workers with regular salaried employment	74400	—	45000	789400	921700	52.35	27108.82	5.03	5389.42
8. Non-agricultural casual workers	—	—	445960	445960	463960	26.35	6924.77	3.73	1856.51
9. Artisanal and service households	—	—	28000	28000	28000	1.59	14000	5.00	2800
Total	776800	80000	659960	1516760	1760620	100.00	10296	4.46	2308.52
As percentage to the total	44.12	4.54	37.48	86.15	100.00	—	—	—	—

Source : Field survey (census and sample).

Across the categories, the salaried group, as has been expected, accounted for more than half of non-agricultural income earned in the village in 1993-94. The numerically dominant non-agricultural casual workers earned about one-fourth of the non-agricultural income in the same year. Thus, these two non-agricultural categories put together earned more than three-fourths of the non-agricultural income. The remaining seven categories for which the non-agricultural occupations provided supplementary incomes earned less than one-fourth of the non-agricultural income in 1993-94. Between 1985-86 and 1993-94, the village level per household and per capita non-agricultural incomes respectively went up by three to four times from Rs.3171.40 to Rs.10296 and from Rs.647.22 to Rs.2308.52. However, the increased participation of workers both in regular salaried employment and in a variety of non-agricultural casual occupations available mainly outside the village led to the declining concentration of non-agricultural income among the households. The Gini coefficients turned out to be 0.5470 in 1985-86 and 0.4669 in 1993-94.

GROWTH CENTRES AND THE WEAKER SECTIONS

Though village agriculture could not provide much of employment to the resident agricultural labourers, they did not prefer to go into the neighbouring agriculturally prosperous villages in search of employment. Instead, they preferred to go into the neighbouring towns in search of urban and industrial employment. Since the industrialisation of Gummidipundi town in the 1980s mainly benefited the skilled workers in its production phase, the adult male non-agricultural workers of the village were mainly engaged as casual workers in the construction of sheds for industrial units. Hence the industrialisation of Gummidipundi town by the State Industries Promotion Corporation of Tamil Nadu (SIPCOT) had mainly benefited the skilled and technical workers, who came from far away places taking advantage of both the rail and road transport networks. And, at best, it provided some supplementary incomes to the resident agricultural labourers in lean agricultural seasons, mainly in its construction phase. Of course, a few village workers were found to be employed in the same industry in its production phase, but mainly on casual or on temporary basis. A few more adult workers secured employment on a permanent basis in the industrial units located in Madras city and in the neighbouring towns. Apart from these, while a majority of salaried employees were working in government jobs, a majority of casual workers were employed in urban informal sector even in 1993-94. Hence the urban growth continued to provide more of employment opportunities and incomes to the rural poor rather than the industrial growth. This is because the urban growth could absorb both the educated and uneducated workers respectively in government and private establishments. And it can also provide both high and low wage employment to the workers based on their level of education. On the contrary, the growth of industry required highly skilled technical manpower which the village workers were totally lacking even in our resurvey year. Hence, they were at best employed as construction workers at daily wage rates which were often lower than even the wage rates paid in their own village agriculture and then they were discarded in favour of technical manpower required for industrial production. However, between 1985-86 and 1993-94, the neighbouring industry had also penetrated into the village with a few ancillary industries coming up in its agricultural ayacut on the roadside. But, even these ancillary industries employed the skilled workers who came from outside the village. Hence, of all the rural, urban and industrial growth centres, the urban growth centre had benefited the workers of the village most because they were either uneducated or received only general education. The growth of industry in the neighbourhoods of the village mainly provided off season employment largely to the adult male workers of the village. The rural growth centres which came up in the taluk had not at all benefited the workers of the village even in 1993-94. Nevertheless, a few big farmers who purchased tractors and bullocks between the two survey years could earn considerable incomes from hiring-out their assets in the construction of urban houses and industrial units. Any how, compared to the mid-80s, the spread effects of urban and industrial growth centres were becoming more and more visible in the village.¹⁷ Only the magnitudes of their benefits differed depending on the educational, social and economic status of the households in the village even in 1993-94.

GROWTH AND DISTRIBUTION OF TOTAL INCOME

The distribution of total income (agricultural and non-agricultural) among the categories in 1993-94 is provided in Table 23. The table shows the total income of the village as Rs.29,25,189.40. The same in 1985-86 was Rs.10,48,450.70. Thus the income of the village had gone up by 179 per cent during a period of eight years. The annual rate of growth of income in this period worked out to 22.37 per cent in money terms. Of the two major sources of income, namely, agricultural and non-agricultural, while the former accounted for 39.81 per cent, the latter for 60.19 per cent in 1993-94. In comparison in 1985-86, whereas agricultural sources accounted for 61.28 per cent of income, the non-agricultural sources accounted for the remaining 38.72 per cent. Thus, between the two survey years, the village witnessed the growing proportion of income contributed by non-agricultural sources with a corresponding decline in the proportion of income contributed by agricultural sources. Across the categories

TABLE 23

**Agricultural and Non-agricultural Incomes :
Categorywise Distribution in Verkadu in 1993-94**

Category of households	No. of HHs	Agricultural income (in Rs.)	As percentage to the category's income	Non-agricultural income (in Rs.)	As %age to the category's income	Total income earned by the category (in Rs.)	As %age to the total village income	Average income earned per HH (in Rs.)	Household size	Per capita income earned in 1993-94 (in Rs.)
1. Big farmers	4	372855.25	71.80	146460	28.20	519315.25	17.75	129828.81	7.25	17907.42
2. Medium farmers	3	102064.50	78.84	27400	21.16	129464.50	4.43	43154.83	6.33	6817.50
3. Small farmers	9	157986.28	77.75	45200	22.25	203186.28	6.95	22576.25	6.78	3329.83
4. Marginal farmers	17	138533.28	70.85	57000	29.15	195533.28	6.68	11501.95	4.08	2832.99
5. Pure tenants	13	131943.38	73.65	47200	26.35	179143.38	6.12	13780.26	5.08	2712.64
6. Agricultural labourers	22	167471	87.60	23700	12.40	191171	6.54	8689.59	3.95	2199.89
7. Non-agricultural workers with regular salaried employment	34	60040	6.12	921700	93.88	981740	33.56	28874.70	5.03	5740.49
8. Non-agricultural casual workers	67	33675.75	6.77	463960	93.23	497635.75	17.01	7427.39	3.73	1991.25
9. Artisanal and service households	2	—	—	28000	100.00	28000	0.96	14000	5.00	2800
Total	171	1164569.40	—	1760620	—	2925189.40	100.00	17106.37	4.46	3835.50
As percentage to the total	—	39.81	—	60.19	—	100.00	—	—	—	—

Source : Estimates based on the field data (census and sample).

in 1993-94, while the agricultural households including agricultural labourers earned about three-fourths of their income from agricultural occupations pursued within their own village, the non-agricultural households earned more than 90 per cent of their incomes from pursuing a variety of non-agricultural occupations available mainly outside the village. The table also reveals that while non-agricultural occupations provided agricultural households with considerable amounts of supplementary incomes, the agricultural occupations provided the non-agricultural households with only negligible amounts of supplementary incomes in 1993-94. Again, over the categories, the non-agricultural workers with regular salaried employment earned the largest proportion (33.56 per cent) of total income followed by big farmers (17.14 per cent) and non-agricultural casual workers (17.01 per cent). Thus, these three groups accounted for about two-thirds of the total income earned in the village in 1993-94. However, it is worth noting that the non-agricultural workers with regular salaried employment, who accounted for about one-fifth of the households, earned about one-third of the total income in our resurvey year. And, between 1985-86 and 1993-94, while the share of income earned by this group had gone up considerably from 20.46 per cent to 33.56 per cent, thanks to the increased amounts earned as salaries; the shares of incomes earned by the big farmers and non-agricultural casual workers remained at about 17 per cent.

But the calculations of per household and per capita incomes among the households in 1993-94 can reveal a different picture due to demographic variations between them. At the village level, between 1985-86 and 1993-94, as against the per household income going up from Rs.8191 to Rs.17106 the per capita income increased from Rs.1671.64 to Rs.3835.50. In relative terms, while the per household income increased by 108.83 per cent, the per capita income increased by 129.44 per cent. Thus, per capita income in money terms grew at a rate of 16.18 per cent a year. However, the real per capita income (deflated by the Consumer Price Index for Agricultural Labourers in Tamil Nadu in the survey years of 1985-86 and 1993-94) in the village increased from Rs.311.29 to Rs.360.48 in these years. The annual rate of growth of real per capita income worked out to a mere 1.97 per cent between the two survey years. This is considerably lower compared to the rate of growth of the economy at the macro level. Besides, not only the rate of growth of the village economy was lower, but also the per capita income of the village at Rs.3835.50 was lower compared to the state level per capita income¹⁸ of Rs.5078 in 1991-92. This happened despite the increased diversification of the village economy between the two survey years. It is also interesting to note that the concentration of total income among the households increased with the Gini coefficients turning out to be 0.3675 in 1985-86 and 0.4074 in 1993-94. However, the distribution of agricultural income among the households in 1993-94 had considerably contributed to the increased concentration of total income among the households of the village over the years.

CREDIT

Incidence, purposes and sources of borrowing across the categories in 1993-94 are respectively provided in Tables 24, 25 and 26. According to Table 24, (for procedures adopted in the estimations of borrowing, see Appendix-3) four-fifths of households were in debt. And there was only a negligible

TABLE 24

Incidence of Borrowing among Different Categories in Verkadu in 1993-94

Category of households	Total No. of HHs	Number of sample HHs	Number of sample HHs in debt	Estimated number of HHs in debt	Estimated average total debt amount outstanding per indebted HH (in Rs.)
1. Big farmers	4	2	2	4	215000
2. Medium farmers	3	2	2	3	64000
3. Small farmers	9	3	3	9	9000
4. Marginal farmers	17	5	3	10	5300
5. Pure tenants	13	4	4	13	11375
6. Agricultural labourers	22	6	6	22	2133
7. Non-agricultural workers with regular salaried employment	34	8	4	17	25000
8. Non-agricultural casual workers	67	16	14	58	2780
9. Artisanal and service households	2	2	1	1	12000
Total	171	48	39	137	14145.55
As percentage to the total	—	—	—	80.12	—

Source : Estimates based on the field data (sample).

increase in the proportion of households in debt between the two survey years. But, the estimated average total debt amount outstanding per indebted household had gone up by four to five times from Rs.3490.38 in 1985-86 to Rs.14445.55 in 1993-94. Sharp increases in the amounts borrowed between these years were brought about mainly by the big farmers and medium farmers purchases of tractors, pumpsets and lorries and the non-agricultural regular salaried employees construction of new houses and renovation of old houses. They largely made use of the low interest rate charging institutions for the purchase of these assets. The average amount borrowed by the categories other than those mentioned above were lower than the village average debt amount outstanding per indebted household in 1993-94.

The estimated amount of borrowing by purpose over the categories in 1993-94 are given in Table 25. The table shows the estimated total amount of borrowing by the households in this year as Rs.19,79,041. The same in 1985-86 was Rs.3,60,780. Thus, the total debt amount of the village had gone up by

TABLE 25
Estimated Amounts of Borrowing by
Purpose over the Categories in Verkadu In 1993-94

(All in Rs.)

Category of households	Total No. of HHs	Estimated amount of borrowing	Purpose of borrowing		Estimated average productive debt per HH	Estimated average unproductive debt per HH	Estimated average total debt per HH	Estimated total average income earned per HH	Per HH income to debt ratio
			Produ- tive	Unprodu- tive					
1. Big farmers	4 (2.34)	860000 (43.46)	580000 (67.44)	280000 (32.56)	145000	70000	215000	129828.81	0.60
2. Medium farmers	3 (1.75)	192000 (9.70)	15000 (7.81)	177000 (92.19)	5000	59000	64000	43154.83	0.67
3. Small farmers	9 (5.26)	81000 (4.09)	24000 (29.63)	57000 (70.37)	2667	6333	9000	22576.25	2.51
4. Marginal farmers	17 (9.94)	53000 (2.68)	33333 (62.89)	19667 (37.11)	1961	1157	3118	11501.95	3.69
5. Pure tenants	13 (7.60)	147875 (7.47)	65000 (43.96)	82875 (56.04)	5000	6375	11375	13780.26	1.21
6. Agricultural labourers	22 (12.87)	46926 (2.37)	6583 (1.41)	40343 (85.56)	300	1833	2133	8689.59	4.07
7. Non-agricultural workers with regular salaried employment	34 (19.88)	425000 (21.48)	—	425000 (100.00)	—	12500	12500	28874.70	2.31
8. Non-agricultural casual workers	67 (39.18)	16124 (8.15)	—	—	—	—	2406	7427.39	3.09
9. Artisanal and service households	2 (1.17)	12000 (0.60)	—	—	—	6000	6000	14000	2.33
Total	171	1979041	723926	1255115	4233.48	7339.85	11573.34	17106.37	1.48
As percentage to the total	—	—	36.58	63.42	—	—	—	—	—

Note : While figures in parantheses in columns 1 and 2 are percentages to their respective village totals the figures in parantheses in columns 3 and 4 are percentages to their respective category's total.

Source : Estimates based on the field data (sample).

448.54 percent, thanks to the partial modernisation of agriculture and the acquisitions of costly assets including colour television sets by the households between the two survey years. Out of the total debt amount of Rs.19,79,041 incurred in 1993-94, while little more than one-third of it was borrowed for productive purposes, little less than two-thirds of it was borrowed for unproductive purposes. And there had been an increase observed in the proportion of borrowing for productive purposes with a corresponding decline in the proportion of borrowing for unproductive purposes between the two survey years. As against the big and marginal farmers borrowing more for productive purposes, other agricultural categories borrowed more for unproductive purposes. The non-agricultural categories including artisanal and service households borrowed only for unproductive purposes. The estimated average total debt amount per household in 1993-94 worked out to Rs.11,573.34. The same in 1985-86 was a mere Rs.2819.29. Over the categories, in 1993-94, with the exception of big and medium farmers, and the non-agricultural workers with regular salaried employment, all other categories borrowed less than the village average total debt amount per household. The calculations of per household income to debt ratios which indicate the debt burdens of the households in 1993-94, revealed 1.48 for the village as a whole. This shows that the income of the households was higher at least by half in comparison to the debt amount in the resurvey year. But the debt burden of the village as a whole increased with per household income to debt ratios indicating 2.90 in 1985-86 and 1.48 in 1993-94 (the higher per household income to debt ratio indicates the lower debt burden). Among the categories, the big and medium farmers experienced the high debt burdens with per household income to debt ratios showing less than even one. But, there is a big difference in the purposes of borrowing by these two categories in the village. While the big farmers debt amount increased very much between the two survey years due to the acquisition of productive assets such as tractors, pumpsets and lorries, the same in the case of medium farmers increased due to unproductive spending by them on luxury goods, housing and social ceremonies.

The sources of borrowing for different categories of households in the village in 1993-94 are presented in Table 26. The table shows both the amounts and sources of borrowing with their proportions over the categories in this year. As per the table, while about one-fourth of the debt amount came from the low interest rate charging banks, about one-third of the debt amount came from others including relatives and friends. Thus, these two sources accounted for more than half of the debt amount of the village in our resurvey year. On the contrary, in the mid- 80s, these two sources provided hardly 15.63 per cent of debt amount. Of the other sources of borrowing, the high and low interest rate charging money-lenders and employer-organisations respectively provided 17 per cent and 15 per cent of debt amount in 1993-94. Even with the increased production and marketing of paddy, the role of merchants in the supply of production credit declined, for the reasons already mentioned, from 5.65 per cent in 1985-86 to a mere 1.62 per cent in 1993-94. In absolute terms, the total credit amount supplied by them increased only marginally from Rs.19,000 to Rs.32,096 between these years. As far as the largest proportion of credit amount supplied by others including relatives and friends is concerned, it is worth noting that the big farmers themselves borrowed Rs.5,48,000 out of the Rs.6,45,460 provided by them in 1993-94. Big farmers borrowed little less than two-thirds of their debt amount from this source, mainly to acquire the costly new productive assets. However, of all the categories, the big farmers and the non-agricultural workers with regular salaried employment emerged as the major beneficiaries of low interest rate charging institutional and other sources of credit in 1993-94. Again, over the categories, the non-agricultural casual workers borrowed the largest amount from the high interest rate charging money-lenders followed by medium farmers in the village in the same year. This had negative implications for the incomes earned by these two categories. And the marginal farmers borrowed about two-thirds of their debt amounts from the low interest rate charging banks and others. Agricultural labourers borrowed mostly from money-lenders followed by banks. However, in the total debt amount of Rs.19,79,041, while big farmers themselves borrowed about two-fifths (43.45 per cent), all others borrowed little less than three-fifths in 1993-94.

TABLE 26

**Estimated Amounts of Borrowing by Source Across
Different Categories in Verkadu in 1993-94**

(All in Rs.)

Category of households	Total No. of HHs	Sources of borrowing							Estimated amount of borrowing by each category
		Banks	Employer organisation	Employers in non-agricultural occupations	Landlords	Money lenders	Merchants	Others (including friends relatives)	
1. Big farmers	4	312000 (36.28)	—	—	—	—	—	548000 (63.72)	860000 (100.00)
2. Medium farmers	3	85500 (44.53)	—	—	—	64500 (33.59)	—	42000 (21.88)	192000 (100.00)
3. Small farmers	9	30000 (37.04)	—	—	39000 (48.15)	9000 (11.11)	3000 (3.70)	—	81000 (100.00)
4. Marginal farmers	17	16667 (31.45)	—	—	—	—	16667 (31.45)	19666 (37.10)	53000 (100.00)
5. Pure tenants	13	16250 (10.99)	—	—	73125 (49.45)	35750 (24.18)	—	22750 (15.38)	147875 (100.00)
6. Agricultural labourers	22	11000 (23.44)	—	—	16500 (35.16)	14667 (31.26)	—	4759 (10.14)	46926 (100.00)
7. Non-agricultural workers with regular salaried employment	34	—	297500 (70.00)	—	—	127500 (30.00)	—	—	425000 (100.00)
8. Non-agricultural casual workers	67	—	—	59326 (36.79)	—	81200 (50.36)	12429 (7.71)	8285 (5.14)	161240 (100.00)
9. Artisanal and service households	2	8000 (66.67)	—	—	—	4000 (33.33)	—	—	12000 (100.00)
Total	171	479417	297500	59326	128625	336617	32096	645460	1979041
As percentage to the total	—	24.22	15.03	3.00	6.50	17.00	1.62	32.61	100.00

Note : Figures in brackets are percentages to the respective category's total debt amount.

Source : Estimates based on the field data (sample).

UTILISATION OF COMMON PROPERTY RESOURCES (CPRS)

Some of the common property resources of the village both in 1985-86 and in 1993-94 include a large proportion (29.16 per cent) of uncultivated area and three ponds. The village has no separate grazing land and forest. Out of nine ponds located in the village, while six of them are privately owned, the remaining three of them are commonly owned. And the tank belongs to three villages including Verkadu and hence the village is expected to share this tank to the extent of one-third. In 1985-86, we observed the village leaders auctioning the fish and lotus leaves available in the three ponds and earning a few thousand rupees from them. They also shared the income earned from auctioning the fish available in the tank with the other two villages in the mid-80s. By 1993-94, while they had not auctioned the fish and lotus leaves available in the three ponds, they had also not collected their share of income from the auctioning of fish available in the tank. Thus, there was lack of unity among the households of the village to use this common property resource for their benefit. Though a large proportion of area

was uncultivated in 1993-94, not even landless households were interested in cultivating some of these lands. Instead, they preferred to work as wage earners either in agricultural or in non-agricultural occupations available in their neighbourhoods. And most of the animals owned by the landless and land poor households were stall fed rather than taken out for grazing at least in the waste lands of the village. Besides, the poor households also did not make any effort to collect their firewood from the trees growing in the waste lands and in the tanks. Instead, most of them preferred to buy the same from the market. Of course, lack of enough of livestock and family labour in these households had come in the way of their utilising common property resources available in and around the village in 1993-94. Between 1985-86 and 1993-94, we observed twenty scheduled caste landless labour households encroaching about two acres of temple lands belonging to a neighbouring village and located adjacent to their residential area. But they had encroached this temple land for the purpose of house sites rather than for cultivation. And a court case is said to be pending for the evacuation of scheduled caste households from this land. On the whole, the incomes earned by the households from the utilisation of common property resources declined between the two survey years.

IMPLEMENTATION OF PUBLIC PROGRAMMES

Till 1985-86, the village did not benefit from the implementation of any specific household development programmes initiated by the state and central governments. But, after that, the village received the attention of state government in the construction of small pucca houses to the 20 scheduled caste agricultural labourers in the colony. Government has also provided free electricity for lighting purposes in the poor households. Besides, a few more old women were also included in the Widow Relief Pension scheme implemented by the government of Tamil Nadu. Two of the landless scheduled caste households had also been provided with huge loans ranging from Rs.30000 to Rs.40000 each for purchases of three-wheelers by the Scheduled Castes Development Corporation of Tamil Nadu in the early 1990s. These vehicle loans were provided at nominal interest rates to enable low caste workers to earn by transporting vegetables, milk and other minor agricultural products to the neighbouring towns. However, the government had yet to implement any livestock programmes for the benefit of landless agricultural labourers in the village.

As far as the general development programmes of the village are concerned, the implementation of drinking water facilities, noon-meal scheme for the benefit of school children and the supply of essential consumer items at fair prices by the Public Distribution System (PDS) are worth mentioning. Between 1985-86 and 1993-94, the village panchayat provided drinking water facilities in two of the three hamlets where upper caste households are living. By 1993-94, only one of these two hamlets was enjoying the drinking water facility, while in the other the borewell failed to yield any water. However the third hamlet where low caste agricultural labourers and tenants are residing had been excluded from this facility for over decades because the village panchayat had also been dominated by the upper caste leaders. Hence the female members belonging to the low caste households of this hamlet had to walk long distances to fetch drinking water in 1993-94. And, there was also no well in this hamlet where about 40 scheduled caste and non scheduled caste households resided. As far as the implementation of noon-meal scheme in the two primary schools of the village is concerned, we observed that while most of the resident upper caste children were not enthusiastic about this scheme and preferred to go home for lunch under the advice of their parents, the scheme was taken advantage of mainly by the non resident and resident low caste children. And, in the early 1990s, we also observed a considerable number of upper caste children going to English medium schools in the neighbouring town of Gummidipundi. As far as the distribution of essential consumer items by the PDS through its fair price shop in the village is concerned, we did not observe much of a change in the benefits derived from this by different sections of the village population even after 1985-86. The scheduled caste landless agricultural labourers and other upper caste landless households continued to depend

on the market for the purchases of their staple food item viz., rice at higher prices. And, at best they were offered with one or two kilos of sugar and one or two liters of kerosene per household per month by the fair price shop run in the village.

CHANGES IN LEVELS OF POVERTY

Based on sample data we have estimated the levels (or head-count ratios) of different types of poverty prevailing (absolute, abject and relative) in the village in 1993-94. The same are presented in Table 27. For the calculations of absolute poverty, we have taken the rural poverty line income of Rs.15 at 1960-61 prices. Then, this is corrected for the current poverty line income by using the Consumer Price Index for Agricultural Labourers (CPIAL) relating to Tamil Nadu. The CPIAL for the year 1993-94 stood at 1064 points.¹⁹ And, such an exercise revealed the poverty line income relating to Tamil Nadu in 1993-94 as Rs.1920 per capita per year. While we have used the amount of Rs.1920 as the cut off poverty line income for the identification of households and persons in absolute poverty, we have used half of this poverty line income i.e Rs.960 per capita per year for the identification of households and persons in abject poverty. As far as the calculations of relative poverty are concerned, we have used the village level per capita income of Rs.3835.50 (Table 23) as the cut off point.

The estimates of different types of poverty (for the procedures adopted in the estimates of poverty, see Appendix-4) prevailing in the village in Table 27 reveals that about 35 per cent of the households and 38 to 39 per cent of the population were in absolute poverty in 1993-94. While the abject poverty had disappeared, about 65 per cent of the households and about 55 per cent of the population were in relative poverty. Among the categories, as has been expected, absolute poverty was concentrated in the

TABLE 27

Sample and Estimated Numbers of Households and Persons in Poverty among Different Categories in Verkadu in 1993-94

Category of households	No. of sample HHs	No. of sample persons	Absolute poverty		Relative Poverty		Abject Poverty	
			No. of HHs	No. of persons	No. of HHs	No. of persons	No. of HHs	No. of persons
1. Big farmers	2	17	—	—	—	—	—	—
2. Medium farmers	2	14	—	—	—	—	—	—
3. Small farmers	3	30	1	18	—	—	—	—
4. Marginal farmers	5	18	—	—	5	18	—	—
5. Pure tenants	4	21	—	—	1	2	—	—
6. Agricultural labourers	6	26	3	16	6	2	—	—
7. Non-agricultural workers with regular salaried employment	8	46	—	—	—	—	—	—
8. Non-agricultural casual workers	16	65	11	53	16	65	—	—
9. Artisanal and service households	2	10	—	—	2	10	—	—
Total	48	247	15	87	30	121	—	—
As percentage to the total	—	—	31.25	35.22	—	—	—	—

Note : No: Number; HHs : Households.

(Table continues overleaf)

TABLE 27 (continued)

Category of households	Total No. of HHs	Total No. of persons	Estimates						Percentage of category's population in absolute poverty
			Absolute poverty	Relative poverty	Abject poverty				
			No. of HHs	No. of persons	No. of HHs	No. of persons	No. of HHs	No. of persons	
1. Big farmers	4	29	—	—	—	—	—	—	—
2. Medium farmers	3	19	—	—	—	—	—	—	—
3. Small farmers	9	61	3	37	—	—	—	—	60.65
4. Marginal farmers	17	69	—	—	17	69	—	—	—
5. Pure tenants	13	66	—	—	3	6	—	—	—
6. Agricultural labourers	22	87	11	54	22	87	—	—	62.06
7. Non-agricultural workers with regular salaried employment	34	171	—	—	—	—	—	—	—
8. Non-agricultural casual workers	67	250	46	204	67	250	—	—	81.60
9. Artisanal and service households	2	10	—	—	2	10	—	—	—
Total	171	762	60	295	111	422	—	—	—
As percentage to the total	—	—	35.08	38.71	64.91	55.38	—	—	—

Source : Estimates based on the field data (sample).

group of non-agricultural casual workers in 1993-94. Even among the agricultural categories, about 60 per cent of the persons belonging to small farmers and agricultural labourers were in absolute poverty in the same year. And it is surprising to note that none of the marginal farmers were in absolute poverty in our resurvey year. As far as relative poverty is concerned, all the marginal farmers, agricultural labourers and non-agricultural casual workers were in it in 1993-94. Again, it is surprising to note that only a negligible few belonging to the pure tenants were in relative poverty in the same year. However, village level absolute poverty at 38.71 per cent of population in 1993-94 was considerably lower compared to the state level absolute poverty of 43.13 per cent of population in 1987-88.

Comparisons of poverty levels between 1985-86 and 1993-94 are provided in Table 28. The table shows the declining incidence of absolute, abject and relative poverty in the village between these years. But there were no significant declines observed in any type of poverty prevailing in the village over the years. Between 1985-86 and 1993-94, the absolute poverty prevailing earlier among the marginal farmers, pure tenants and artisanal and service households declined. In the same manner, the relative poverty prevailing earlier among the medium and small farmers and non-agricultural workers with regular salaried employment declined by 1993-94. However, whereas the absolute poverty prevailing among the agricultural population (upto sixth category in the table) declined marginally from 30.79 per cent to 27.49 per cent, the same in the case of non-agricultural population (categories seven to nine in the table) declined considerably from 55.94 per cent to 47.33 per cent between the two survey years. This indicates that the non-agricultural occupations available outside the village had exerted greater pressure on absolute poverty levels in comparison to the same by the agricultural occupations pursued within the village over the years.

TABLE 28

Changes in the Estimated Levels of Poverty Across the Categories
in Verkadu between 1985-86 and 1993-94

Category of households	1985-86			1993-94		
	Percentage of category's population in			Percentage of category's population in		
	Absolute poverty	Relative poverty	Abject poverty	Absolute poverty	Relative poverty	Abject poverty
1. Big farmers	—	—	—	—	—	—
2. Medium farmers	—	15.37	—	—	—	—
3. Small farmers	—	68.00	—	60.65	—	—
4. Marginal farmers	57.13	100.00	—	—	100.00	—
5. Pure tenants	30.00	45.00	—	—	9.09	—
6. Agricultural labourers	80.69	100.00	10.52	62.06	100.00	—
7. Non-agricultural workers with regular salaried employment	—	70.14	—	—	—	—
8. Non-agricultural casual workers	79.48	87.18	—	81.60	100.00	—
9. Artisanal and service households	76.44	100.00	—	—	100.00	—
Percentage of total village population in poverty	42.26	60.36	1.38	38.71	55.38	—

Source : Estimates based on the field data (sample).

CHAPTER V

CONCLUSIONS

Between 1985-86 and 1993-94, the village witnessed some of the crucial changes in its economy and society. The physical appearance of the village changed a great deal thanks to partial modernisation of agriculture and the construction of a few factories within its boundaries. Further, the township of Gummidipundi has now extended upto the village. The households had acquired new high value assets such as tractors, pumpsets, trucks and three and two-wheelers between the two survey years. The same period had also witnessed the construction of new houses both by the government (for the scheduled castes) and the upper caste households. Thus, by 1993-94, the village was bubbling with both agricultural and non-agricultural activities. But, this also led to the sharp polarisation of the households on the basis of both social and economic status. The eight year period between the two surveys had also witnessed the further integration of the village economy with the outer world.

Demographically, the village experienced a higher rate of growth of population thanks to the immigration of households and the return of old households after our last survey in the mid- 80s. And, almost all these households came to settle down in the village only to take advantage of the developments taking place in its neighbourhoods rather than to pursue any agricultural occupations. At the household level, though the average family size remained more or less the same with four to five persons living in each of them, the earner-dependent ratio had gone up very much (indicating the larger number of dependants to earners) between the two survey years. Again, at the village level, despite considerable improvement in its literacy level over the years, the sex-ratios continued to be unfavourable like its own district and the state in the early 1990s. Thus, the village experienced mixed demographic fortunes in our resurvey year compared to our original survey year.

As far as the workforce of the village and the occupational structure of the households in 1993-94 are concerned, higher proportions of them came to depend on non-agricultural occupations available mainly outside the village for their livelihoods. About three-fifths of the households and workers of the village depended on non-agricultural occupations available mainly outside the village for their major source of income in 1993-94. By contrast, in 1985-86, 46 per cent of households and about one-third of the workers depended on the same for their major source of income. Thus, the village had transformed itself from one of mainly an agricultural one in the mid-80s to one of substantially a non-agricultural one by the early 1990s. By 1993-94, in comparison to the taluk in 1991, while the village had far lower proportion of agricultural workers, it had far higher proportion of non-agricultural workers. However, the entire addition to the workforce of the village, after the mid-80s, was absorbed by the non-agricultural sector of the wider economy rather than by the transformation of agricultural economy within the village. Of course, we have already noted that the traditional agriculture practised in the village could not absorb the growing labour force in the first half of eighties. But, even the partial modernisation of agriculture, between the two survey years, failed to absorb any increments to labour force and hence became a push factor for many non-agricultural workers. This also happened because of the partial modernisation of agriculture which did not lead to any appreciable increase either in the per acre utilisation of labour or in the area cultivated with crops between the two survey years. As far as the caste composition of agricultural labourers and non-agricultural workers is concerned, while the scheduled castes and tribes supplied the most of the former, the upper castes supplied the most of the latter. And this had implications for the incomes earned by different sections of the population in the village in 1993-94. Nevertheless, in the total population of the village, in the same year, little less than two-thirds of it remained as non-workers indicating the greater dependence of population on just one-third of it who worked and earned in 1993-94. Anyhow, our earlier observation of only high caste, landed and educated workers securing

high wage urban employment stands confirmed even by our resurvey in 1993-94. The same also confirms the restriction of non-agricultural employment only to the adult male workers of the village rather to the adult female workers of the village even in 1993-94.

Between 1985-86 and 1993-94, the pattern of land utilisation in the village remained the same. But the non-residents ownership of cultivable land in the village had increased between these years. And, as against the non-residents owning more than two-thirds of the land in the village, the residents hardly owned 10 acres of land in one of the neighbouring villages even in 1993-94. The institutional land ownership in the village continued to be the same at about 30 acres of land. And the village still has no separate grazing and forest land.

The residents continued to own about one-third of the cultivated area even in 1993-94. The concentration of land ownership among the households declined considerably between the two survey years. But, the percentage of landless households had gone up considerably from about 41 per cent to about 55 per cent between 1985-86 and 1993-94. Thus the majority of the households in 1993-94 did not own any land either within or outside the village. The castewise distribution of land ownership in the village in our resurvey year reveals that though Mudaliars and Naickers owned equal extents of land, the average size of the land ownership was much higher in the case of Mudaliars. Hence as against the Naickers dominating the demographic structure of the village, Mudaliars dominated the land ownership structure in our resurvey year.

Between 1985-86 and 1993-94, there had been considerable declines observed both in the number of tenants and in the extent of area leased-in by them. The decline in the area under tenancy was brought about mainly by the resumption of cultivation by the non-resident owners of land rather than by the residents. In fact, the latter had increased their extent of land leased-out because a few of them wanted to concentrate on non-agricultural occupations available outside the village. And the temple lands were leased-out by a group of trustees in 1993-94 rather than sub-let by a big farmer which we observed in 1985-86. Hence by 1993-94, the tenants were less caught in the inter linked markets of land, labour and credit. But the rent charged per acre per year increased from three bags of paddy to five bags of paddy between the two survey years. And the land continued to be leased-out on kuttagai (fixed rent) basis rather than on varam (share cropping) basis. However, the declining tenancy had mainly affected the pure tenants rather than the owner-cum-tenants, who continued to lease-in more or less the same extents of land in order to take advantage of their newly acquired assets such as tractors and pumpsets and livestock. Nevertheless, the declining area under tenancy coupled with the declining area owned led to a substantial decline in the total area operated by the residents between the two survey years. In the total operated area of the village in 1993-94, while the four big farmers operated about one-fourth, the remaining 167 households operated the rest of three-fourths of the area. Anyhow, the distribution of operated area among the households was less concentrated in 1993-94 in comparison to the same in 1985-86.

As against the declining number of animals observed between 1976-77 and 1985-86 by less than one-third in the village; the same between 1985-86 and 1993-94, increased by more than one-third compensating the decline in the animal strength of the village observed in the earlier period. In the same manner, while the number of cowherds declined from ten to two, in the earlier period; the same increased from two to seven in the later period. Of the different types of animals owned in the village, while the number of bullocks remained more or less the same, the numbers of milch animals, sheep and goats and young animals had gone up substantially between the two survey years. And this had positive implications for the non-agricultural income earned, especially by the small farmers, agricultural labourers and the non-agricultural workers with regular salaried employment in the village in our resurvey year.

As far as the ownership of agricultural implements and the high value agricultural machines are concerned, while the less value traditional wooden and iron implements declined sharply between the two survey years; the numbers of tractors, pumpsets and trucks owned in the village had gone up from almost zero to four, three and two respectively in the same period. Hence the eight year period

between the two survey years witnessed the mechanisation of agriculture for the first time in the village. However, all these high value machines were owned only by the big farmers rather by the other less land owning households in the village. And the sharply declining ownership of traditional agricultural implements had negative consequences for the employment and incomes of artisans, who, however, came to depend totally on outside employment for their survival by 1993-94. This also ended the negligible jajmani relationships prevailing earlier in the village.

Even with the mechanisation of agriculture, the cropping intensity declined marginally between the two survey years. The eight year period between the two surveys had also witnessed the change of multiple cropping pattern by the monocropped cultivation of paddy raised mainly in one of the seasons of a year. And, all these had implications for the employment and incomes of agricultural labourers and small cultivators in the village in the resurvey year.

Despite the mechanisation of agriculture, not only the cropping intensity declined, but also absolute per acre labour utilisation had hardly improved. Though the farmers changed the cultivation of traditional varieties of paddy by the high yielding varieties (HYVs) of paddy, they did not change some of the important traditional methods of cultivation such as broadcasting the seed and the dry cultivation of the crop till tank irrigation is available. Only under three new pumpsets, paddy was raised in about 25 acres of land based on modern methods of cultivation such as transplanting. Since about 90 per cent of the total HYV paddy area was cultivated based on broadcasting (of seed) method, the farmers could not realise the full potential of HYV paddy. Hence the per acre yield rate of paddy had increased only by one-third from a very low of 13 bags of paddy to 17 bags between the two survey years. However, under pumpsets, the per acre yield rate of paddy doubled after the introduction of HYVs. Though the per acre yield rate of paddy had not increased substantially under tank irrigation, the cultivation of HYV paddy was associated with the changing labour use pattern in agriculture. Between the two survey years, while the use of migrant labour and tractor services had gone up considerably, the use of family and bullock labour declined substantially. However, the use of hired labour remained more or less the same both in traditional and modern agriculture.

The analysis of costs and returns in agriculture reveals that as against the per acre total cost of cultivation of paddy increasing by 186.77 per cent, the average (weighted) per acre net income earned went up by 86.20 per cent between the two survey years. In comparison to 1985-86, the range of variation observed in the total per acre cost of cultivation across the categories increased substantially by 1993-94. The per acre net income earned on the basis of paid-out cost was nearly double the amount of income earned on the basis of total cost. This indicates that roughly half of the incomes in paddy cultivation were earned by using owned inputs in agriculture by the households in our resurvey year. Nevertheless, the calculations of input-output ratios revealed the declining efficiency of agriculture even after its partial modernisation.

Despite the near stagnation in the area under paddy, the partial modernisation of agriculture increased the paddy production by one-third. Out of the total paddy production in 1993-94, a few big farmers themselves accounted for little more than one-fourth. But, they accounted for little more than one-third of the income generated in paddy production indicating the advantages taken by them even in the product market. With the cultivation of HYV paddy, the marketing pattern of paddy had also undergone a change. The increased paddy production also increased the marketable surplus of paddy both in absolute and relative terms. Whereas little less than one-third of paddy production was retained for seed, consumption and rent payment purposes, the remaining two-thirds were marketed in 1993-94. As against a larger proportion of traditional varieties of paddy being marketed in lean agricultural season in 1985-86, equal proportions of HYV paddy were marketed in both post-harvest and lean agricultural seasons in 1993-94. Again, while the non-resident merchants purchased paddy directly from the farmers in the village in the mid-80s, by our resurvey year, we found the large producers of paddy transporting grains to the nearby marketing

centres in order to take advantage of the better prices prevailing there. Besides, they also earned the transportation charges by using their own newly purchased tractors. The average price secured per bag of paddy had more than doubled from about Rs.125 in 1985-86 to about Rs.300 in 1993-94. Thus, farmers became much more price and market conscious by the resurvey year. However, the production of HYV paddy based on increased cash costs of cultivation also necessitated the farmers to sell more in the post-harvest season itself in the early 1990s in comparison to the same in the mid-80s.

As far as the different sources of agricultural incomes to the households in 1993-94 are concerned, cultivation of owned land and hiring-out agricultural labour provided half of the agricultural income. Tenancy provided (both leasing-in and leasing-out) about 16 per cent of agricultural income. And the use of owned inputs in agriculture provided about one-tenth of agricultural income in the resurvey year. The agricultural income earned by the households from outside the village hardly accounted for one to three per cent, both in 1985-86 and 1993-94. And, the total agricultural income of the village between these years went up by about four-fifths. While the per household agricultural income worked out to Rs.6810, the per capita agricultural income worked out to Rs.1526 in 1993-94. However, the period between the two survey years had also witnessed the increased concentration of agricultural income among the households of the village thanks to the mechanisation and modernisation of agriculture, especially by a few big farmers of the village.

Between 1985-86 and 1993-94, the village witnessed further diversification of its economy with about three-fifths of its households and workers depending on non-agricultural occupations available mainly outside the village. The total non-agricultural income of the village between these years had gone up by four to five times. Whereas the sources within the village contributed to 14 per cent of non-agricultural income, the sources outside the village contributed to the remaining 86 per cent of non-agricultural income in 1993-94. And their contributions were more or less the same even in 1985-86. Of all the sources of non-agricultural income, regular salaried employment provided the largest source of income followed by casual employment in a variety of non-agricultural occupations available outside the village. Both the per household and per capita non-agricultural incomes earned between the two survey years went up by three times. The increased participation of workers in non-agricultural occupations led to the declining concentration of non-agricultural income among the households of the village over the years. In this connection, it is also worth mentioning the fact that urban growth had benefited the households more than the industrial growth. And the rural growth centres which came up in the taluk had hardly benefited the households even in 1993-94. Nevertheless, the spread effects of urban and industrial growth centres benefiting the weaker sections of the village became more and more visible between the two survey years.

The total income (agricultural and non-agricultural) of the village between the two survey years reveal a 179 per cent growth. Hence the total income of the village grew by about one-fifth every year. Between 1985-86 and 1993-94, there was a substantial decline in the proportion of total income contributed by agricultural sources with a corresponding increase in the proportion of total income contributed by non-agricultural sources. In the total income of the village in 1993-94, while the non-agricultural workers with regular salaried employment earned the largest proportion (33.56 per cent), big farmers and non-agricultural casual workers earned about 17 per cent each. However, the per capita income of the village at Rs.3835.50 in 1993-94 was somewhat lower in comparison to the same at the state level (Rs.5078) in a previous year of 1991-92. And the calculation of real income per capita growth revealed it to be 1.97 per cent per year between the two survey years. Again, the Gini coefficients revealed the increasing concentration of total income among the households over the years.

The period between the two survey years also witnessed the increased amounts borrowed for both productive and unproductive purposes. The total debt amount of the village had gone up by four to five times with the proportion of households borrowing remaining more or less the same between the

two survey years. Again, in the total debt amount of the village, while productive debt accounted for about one-third, the unproductive debt accounted for about two-thirds. Of the different sources of borrowing, as against the low interest rate charging banks, employer organisations and others including relatives and friends providing little less than three-fourths of the credit; the high interest rate charging private sources provided little more than one-fourth of the credit in 1993-94. However, the big farmers and non-agricultural regular salaried employees emerged as the major beneficiaries of low interest rate charging institutional and other sources of credit even in 1993-94. The calculations of per household income to debt ratios revealed the increased debt burden of the households between the two survey years. And this was only expected given the purchases of high value assets, especially by the big farmers after our last survey in the mid-80s.

Between 1985-86 and 1993-94, whereas the income earned from the utilisation of common property resources (CPRs) by the households declined, the income earned from the implementation of public programmes increased. The utilisation of CPRs had been completely neglected by the households by 1993-94. On the contrary, the government, for the first time, in the late 1980s constructed pucca houses for the benefit of scheduled caste agricultural labourers. It also sanctioned to the same group a few vehicle loans at nominal interest rates. As far as the other common programmes implemented by the government for a long time are concerned, they continued to benefit less and less the landless and land poor households in the village.

The calculations of absolute, abject and relative poverty prevailing in the village revealed them to be declining between the two survey years. Among the categories, while the absolute poverty concentrated on both the groups of agricultural labourers and non-agricultural casual workers in 1985-86, the same in 1993-94 was concentrated in a particular group of non-agricultural casual workers. And none suffered from abject poverty in the resurvey year. Whereas the big and medium farmers never experienced any type of poverty, the absolute poverty of marginal farmers, pure tenants and the artisanal and service households totally disappeared by 1993-94. However, compared to the agricultural population, a higher proportion of non-agricultural population crossed the absolute poverty line income by 1993-94. And, this only revealed the greater influence exerted by the non-agricultural occupations available outside the village on the resident households and population between the two survey years.

Appendix-1

A Note on the Procedures Adopted for the Calculations of Costs of Cultivation in Verkadu Agriculture in 1993-94

In the calculations of per acre costs of cultivation of paddy incurred by different categories of farmers in Verkadu in 1993-94, we have strictly followed the procedures adopted by the *Studies in the Economics of Farm Management*. Accordingly, the costs of cultivation are calculated as Cost A1, A2, B and C. Cost C shows the total cost of cultivation incurred on an acre of paddy cultivation in 1993-94. The procedures adopted for the calculations of individual costs of cultivation are given below.

- 1) **Hired human labour (Casual)** It is calculated by multiplying the number of casual labour days employed in different agricultural operations with that of the prevailing wage rates for those operations in the village in 1993-94.
- 2) **Owned bullock labour** The cost of owned bullock labour is imputed by multiplying the number of own bullock labour days with the prevailing wage rates for hired bullock labour in 1993-94.
- 3) **Hired bullock labour** It is calculated by multiplying the number of hired bullock labour days with the wage rates paid to such labour in the village in 1993-94.
- 4) **Owned tractor** These charges are first imputed by multiplying the number of hours of own tractor used in the per acre cultivation of paddy with that of the tractor hire charges per hour in the village in 1993-94. Then, we have taken half of this amount as the cost incurred by the tractor owner farmer. This is because while non-owners pay hire charges and use the tractors, the owners have to incur the maintenance costs of tractors while using them. These include payments to tractor drivers, diesel and replacements of machine parts. Moreover, since the costs of cultivation include the depreciation (which takes into account the cost of replacement of some of the parts of the machine) on tractors, the calculations or imputations of full hired charges mean the double counting of costs incurred by the tractor owning farmers. Hence, we have taken only half of the imputed values of tractor hired charged for owner cultivators.
- 5) **Tractor hired charges** These are calculated by multiplying the number of hours of tractor services used in the per acre cultivation of paddy with that of the going hired charges for tractor services in the village in 1993-94.
- 6) **Seeds(owned)** It is calculated at the price of Rs.5 per kg. In 1993-94 Verkadu farmers used, on an average, 35 kgs of paddy as seed per acre.
- 7) **Seeds (purchased)** It is calculated by multiplying the quantity of seed purchased with the actual prices paid by the farmers.
- 8) **Domestic manures (owned)** These are calculated by multiplying the number of cart loads of cow dung used in the per acre cultivation of paddy with that of the prevailing prices of Rs.20 per cart load in the village in 1993-94.
- 9) **Domestic manures (purchased)** These are calculated by multiplying the number of cart loads of cow dung or green manures used in the per acre cultivation of paddy with that of the actual prices paid by the farmers in 1993-94.
- 10) **Chemical fertilisers and pesticides** These include only the actual amounts of expenditures incurred by the farmers on these fertilisers while raising an acre of paddy in the village in 1993-94.
- 11) **Depreciation** This is calculated by dividing the value of assets such as agricultural machinery and livestock by the number of years of their life first, and then this amount was further subdivided by the gross cropped area of the owner cultivator in the village in 1993-94.

- 12) **Irrigation charges** These include the actual amounts of expenditures incurred by the farmers on purchasing others' pumpset waters for raising an acre of paddy in the village in 1993-94.
- 13) **Interest on working capital (owned)** It is calculated at the bank interest rate of 10 to 12 for the crop period of four to six months in a year. This is calculated only for the owned amount invested in raising an acre of paddy in the village in 1993-94.
- 14) **Interest on working capital (borrowed)** It includes only the actual interest amount paid to the creditors on that portion of the amount borrowed for raising an acre of paddy for the crop period of four to five months.
- 15) **Rent on-leased inland** It is calculated by multiplying the quantity of paddy paid as rent per cropped acre by tenants with the prevailing prices of paddy in the post-harvest season in the village in 1993-94. In 1993-94, the tenants paid two and a half bags of paddy per cropped acre and the going price at that time was Rs.300 per bag of paddy (of 80 kgs each).
- 16) **Rental value of owned land** It is imputed at the going rental value of Rs.750 per cropped acre in the village in 1993-94.
- 17) **Interest on fixed capital (excluding land)** It is calculated by dividing the possible bank interest amount earned by the fixed capital with the gross cropped area of the owner cultivator in the village in 1993-94.
- 18) **Value of family labour** It is imputed at the going hired wage rates of casual agricultural labourers in the village. This is calculated by multiplying the number of family labour days used in the per acre cultivation of paddy with that of the going wage rates paid for hired labour in the village in 1993-94.

Appendix-2

A Note on the calculations of Agricultural and Non-agricultural Incomes Earned by Different Categories of Households in Verkadu in 1993-94

- 1) **Income from the cultivation owned land** This is calculated, first, by subtracting the leased-out area from the owned area, and then, multiplying it with the category's intensity of cultivation. This gave us the total extent of owned area cultivated by a category of farmers in 1993-94. The total extent of owned land cultivated is multiplied by the net income earned per acre on Cost C basis in 1993-94.
- 2) **Income from the cultivation of leased-in land** This is calculated based on multiplying the leased-in area of the category with its intensity of cultivation first, and then, the total extent of leased-in area cultivated with the per acre net income earned on Cost C basis.
- 3) **Rental Income earned from the cultivation of owned land** This is calculated first, by multiplying the owned area minus leased-out area with the category's intensity of cultivation and then the total extent of owned area cultivated with the imputed rental value of owned land cultivated which is Rs.750 per cropped acre in 1993-94.
- 4) **Rental Income earned from the leased-out land** This is calculated first, by multiplying the category's extent of land leased-out with the tenants intensity of cultivation who actually pay the rents, and then, this total extent of leased-out land is multiplied by the actual rent payment of Rs.750 per cropped acre in 1993-94.
- 5) **Self-employment in agriculture** This is imputed based on multiplying the number of family labour days used in the per acre cultivation of paddy with the going wage rates for hired casual agricultural labourers in the village in 1993-94 first, and then, this amount is multiplied with the gross cropped area of the category in 1993-94.
- 6) **Income earned from hiring-out labour** This is calculated by multiplying the numbers of male and female labour days hired-out in each of the categories with the going wage rates in the village in 1993-94.
- 7) **Income earned from own bullock labour** This is calculated by multiplying the number of own bullock labour days used in the per acre cultivation of paddy with the gross cropped area of the category first, and then, the total number of own bullock labour days used by the category with the going wage rate for hired bullock labour in the village in 1993-94.
- 8) **Income earned from hiring out bullocks** This is calculated by multiplying the total number of bullock labour days hired out by the category in the year 1993-94, with the going wage rates for hired bullock labour in the village.
- 9) **Income earned from using own tractor** This is calculated by multiplying half of the tractor rental charges (i.e. after deducting for the maintenance costs involved in owning and using the tractor) saved per acre with the gross cropped area of the category in 1993-94.
- 10) **Income earned from hiring out tractors** This is calculated as a net income earned by hiring out tractors in different agricultural operations by a category. Net income is calculated by deducting the maintenance costs from the total incomes earned by hiring out tractors in the village.
- 11) **Income earned from the sale of pumpset water for irrigation** This is calculated by multiplying the actual extent of land irrigated by pumpsets on purchase basis with the going price of 6 bags of paddy per acre first, and then, the total quantity of paddy collected by selling pumpset water by a particular category with that of the post-harvest price of paddy viz. Rs.300 per bag in 1993-94. In addition, we have also taken into account the income earned by selling pumpset or diesel engine water on an hourly basis which was Rs.15 per hour in the village in the resurvey year.

- 12) **Income earned from the supply of owned inputs to agriculture other than land and labour** This is calculated by multiplying the per acre values of some of the owned inputs used in agriculture such as a) owned seed, b) domestic manures, c) interest earned from the use of own capital and the d) owned miscellaneous expenditures incurred with that of the gross cropped area of the category in the village in 1993-94.
- 13) **Agricultural incomes earned within the village** These include all those incomes earned by the households within the village agriculture during the year 1993-94.
- 14) **Agricultural incomes earned from outside the village** These include the incomes earned from the total extent of owned land either cultivated or leased-out for rent by a particular category in other villages in the year 1993-94. Some of the big farmers of Verkadu cultivated 10 acres of their own land with paddy twice in 1993-94 based on both tank and purchased pumpset waters. Hence we have multiplied the gross cropped area of 20 acres with the per acre net income earned on Cost C basis, which includes the payments to pumpset waters in other villages in 1993-94.
- 15) **Total agricultural income** This is a sum of agricultural incomes earned both within and outside the village during the agricultural year of 1993-94.

NON-AGRICULTURAL INCOMES

Some of the sources of non-agricultural incomes earned by the households in 1993-94 both within and outside the village include the a) rearing of livestock b) money-lending, c) trade and services d) government employment and pensions, e) trade and transport services and f) casual occupations, especially outside the village. The procedures adopted for the calculations of these incomes are given below:

- 1) **Incomes earned from rearing livestock** These incomes are earned mainly by rearing milch animals and sheep and goats by the households. The incomes earned from selling milk are calculated by multiplying the average daily quantity of milk with the going price of Rs.4 per litre in the village for the lactation period of 9 months in a year. Incomes earned from selling goats are calculated by multiplying the number of goats with the average prevailing price of Rs.500 (for a goat weighing 6 to 7 kgs) per goat in 1993-94.
- 2) **Income earned from money-lending** This includes the actual interest incomes earned from money-lending by the households during the year 1993-94.
- 3) **Income earned from trade within the village** This includes the incomes earned mainly from running petty shops, tea shops and mutton shops, etc. in 1993-94.
- 4) **Incomes earned from providing services within the village** These includes the incomes earned from the provision of services by the barbers, carpenters, washermen, mason and priests to the households in the village in 1993-94.
- 5) **Income earned from government employment and pensions within the village** These include the incomes earned within the village by working as school teachers, ayas in the balwadis (Kinder Gartens) and the cooks in the noon-meal centres, panchayat office peons and drinking water pumpset operators. In addition, we have also included the incomes earned as pensions both by the retired government employees and Widow Relief Pensioners in the village.
- 6) **Non-agricultural incomes earned within the village** These include all those non-agricultural incomes earned within the village during the agricultural year of July 1993 to June 1994.
- 7) **Income earned from regular salaried employment outside the village** This includes the income earned as salaries from government, railways and companies - both private and public - in the year 1993-94.

- 8) **Incomes earned from trade and transport services** These include the incomes earned by hiring out tractors and lorries outside the village during the agricultural year of July 1993 to June 1994.
- 9) **Income earned from casual occupations outside the village** These include the incomes earned from outside the village by working as casual labourers in government establishments, companies and in the urban informal sector during the agricultural year of 1993-94.
- 10) **Non-agricultural incomes earned outside the village** These include the incomes earned from a) regular salaried employment, b) trade and transport services and c) casual occupations in 1993-94.
- 11) **Total non-agricultural income** This is a sum of all non-agricultural incomes earned by the households both within and outside the village during the agricultural year of July 1993 to June 1994.

Appendix-3

A Note on the Procedures Adopted for the Estimations of Borrowing in Verkadu in 1993-94

- 1) **Estimated number of households in debt** This is obtained first by dividing the number of sample households in debt by the number of sample households and then the figure is multiplied by the total number of households in the category.
- 2) **Estimated average total debt amount outstanding per indebted household** This is obtained by dividing the total debt amount of the sample households by the number of sample households in debt.
- 3) **Estimated amounts borrowed for productive and unproductive purposes** These are obtained first by dividing the sample households total debt incurred for a purpose by the number of sample households in debt and then the average is multiplied by the estimated number of households in debt in the respective category.
- 4) **Estimated average productive, unproductive and total debt amounts per household** Debt per household by purpose has been computed by dividing the estimated debt amounts borrowed for productive, unproductive purposes and the total by the total number of households in each category.
- 5) **Per household income-debt ratio** This is obtained by dividing the estimated average total income earned per household in the category by the estimated average total debt incurred per household in the category.
- 6) **Estimated sources of borrowing** These are obtained first by dividing the sample households total amount borrowed from a particular source by the number of sample households in debt in each category and then the average is multiplied by the estimated number of households in debt in each category.

Appendix-4

Procedures Adopted for the Estimations of Poverty In Verkadu In 1993-94

In the estimations of poverty, we have used the household income data rather than the consumption data collected through our sampling enquiry. This is because while the consumption data are very much affected by the seasonality in agriculture, the per household annual incomes are not. Further, our computations relate mainly to the head-count ratios of "absolute" "abject" and relative poverty prevailing in the village in 1993-94. However, for the purpose of analysis, we have solely relied on the calculations of "absolute" poverty.

- 1) **Poverty line income** The poverty-line income is taken as equivalent to the official poverty line expenditure of Rs.15 per capita, per month at 1960-61 prices. This is corrected for the year 1993-94 by using the Consumer Price Index for Agricultural Labourers (CPIAL) relating to Tamil Nadu. The CPIAL for Tamil Nadu relating to the year 1993-94 stood at 1064 points with 1960-61 as the base. Using this index, we have obtained the current poverty line income as Rs.160 per capita per month or Rs.1920 per capita per year. While we have used the poverty line income of Rs.1920 per capita per year for the calculations of "absolute" poverty, we have taken half of this poverty line income of Rs.960 for the calculations of "abject" poverty prevailing in the village. But the "relative" poverty is calculated based on the per capita annual income earned in the village in 1993-94.
- 2) **Head-count ratio of poverty** It is obtained by counting both the number of sample households and the persons in them falling below a particular poverty line income. And the poverty ratios are obtained by dividing the estimated numbers of households and persons living below a particular poverty line income with the total number of households and population in the village.
- 3) **Estimates of poverty** These are first calculated by dividing the numbers of sample households and persons living in different types of (absolute, abject and relative) poverty with the numbers of sample households and persons respectively in the category. Then, these ratios are multiplied with the respective total numbers of households and persons in the category.
- 4) **Occupational poverty** This is calculated by dividing the category's estimated number of persons in absolute poverty with the total number of persons in the category. This ratio is multiplied by 100 in order to get the percentage of total category's population living in absolute poverty.
- 5) **Total poverty** It is a sum of estimated numbers of households and persons living in each type of poverty across the categories in the village. Total estimated poverty ratios are obtained by dividing the total estimated numbers of households and persons living in each type of poverty with the total number of households and population respectively in the village in 1993-94.

NOTES AND REFERENCES

1. The weighted average is obtained by using population weights. The population weights are calculated by dividing the number of land operating households in each of the categories by the total number of land operating households in the village. Of course, the total number of land operating households in the village varied depending on the number of categories covered in particular tables. The procedure adopted for the calculations of weighted averages is the multiplication of sample averages by the population weight of each category and summing up the same for the whole village.
2. For the state and district level data on demographic aspects, see **Tamil Nadu : An Economic Appraisal 1992-93** issued by Evaluation and Applied Research Department, Government of Tamil Nadu.
3. In the collection of data on workforce we have followed the Census definitions relating to the industrial classification of workers in the rural areas.
4. Instead, there was only a slight increase observed in the total landlessness in the rural economy of the country over the years.
5. The Gini coefficient is estimated by trapezoidal approximation method, namely,

$$G = 1 - \sum_{i=1}^n \Delta P_i (Q_i + Q_i - 1)$$
6. But, at a macro level of the economy, the concentration of agricultural land has changed only little. For details, see, **Second India Study Revisited** brought out by the World Resources Institute, August 1994. Also, see extracts in **The Hindu: Business Line**, dated 26th November 1994. The same view has also been expressed by Vaidyanathan (1994). See his article on **Agrarian Relations in the Context of New Agricultural Technology: An Issues paper**, in *Indian Journal of Agricultural Economics*, Vol.49, No.3, July-September, 1994.
7. Vaidyanathan (1974) also found the declines both in the proportion of households leasing-in and the proportion of area leased-in in the rural economy of the country over the years. See *Op.Cit.*
8. For more details on changes in livestock ownerships at the state and district levels, see **Tamil Nadu; An Economic Appraisal, 1989** and **Tamil Nadu: An Economic Appraisal, 1992-93** issued by the Evaluation and Applied Research Department, Government of Tamil Nadu.
9. See **Tamil Nadu: An Economic Appraisal, 1992-93**. *ibid.*
10. Same view has also been expressed based on the analysis of data at a macro level. See, Vaidyanathan (1994): *op.cit.*
11. In fact, a study conducted on farm employment in India reveals the stagnation during the last two decades despite the intensive use of irrigation, fertilisers and high yielding seed varieties in Indian agriculture. See, **Second India Study Revisited**, *op.cit.*
12. See, **Agricultural Situation in India**, December 1993, issued by the Directorate of Economics and Statistics, Dept. of Agriculture and Co-operation, Ministry of Agriculture, New Delhi.
13. First, the per hectare yield rate of rice is converted into per acre yield rate of rice by dividing it with 2.47. Then, the per acre yield rate of rice is converted into per acre yield rate of paddy by taking the quantity of rice as two-thirds of the quantity of paddy. Such an exercise revealed the per acre yield rate of paddy as 23.65 bags (of 80 kgs each) in 1991-92, at the state level. For relevant data, see, **Tamil Nadu; An Economic Appraisal, 1992-93**, *op.cit.* p.383.
14. The procurement prices paid per bag of paddy (80 kgs) in Tamil Nadu in 1993-94 varied from Rs.248 to Rs.280 depending on the variety. See, **Indian Express**, August 31, 1994.

15. See, for instance, Hanumantha Rao, C.H. (1977): **Agricultural Growth and Rural Poverty: Some Lessons from Past Experience**, Economic and Political Weekly, Special Number, August, pp.1369-1374.
16. Some of the studies conducted at a macro level have already pointed out that along with the increased casualisation of agricultural labourforce, the non-agricultural employment also grew substantially as outlets for the rural workforce during the last 20 years. See, **Second India Study Revisited** (1994): op.cit.
17. For a discussion on growth centres and their spread effects, see Misra, R.P. (1972): "Growth Pole Policy for Regional Development in India", in Lahiri, T.B (ed.) **Balanced Regional Development: Concepts, Strategy and Case Studies**, Oxford and IBH, Calcutta.
18. See **Statistical Handbook of Tamil Nadu 1993**, issued by Commissioner of Statistics, Department of Statistics, Madras.
19. For CPIAL, see **Monthly Abstract of Statistics**, Vol.47, Number 7, July 1994, issued by Central Statistical Organisation, Department of Statistics, Ministry of Planning and Programme Implementation, New Delhi.