

MONITORING THE AGRARIAN CHANGE THROUGH HOUSEHOLD PANELS: VLS APPROACH

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ABSTRACT

Semi-arid Tropics (SAT) of India are the poorest regions with the highest incidence of rural poverty, unemployment and indebtedness. International Crops Research Institute for Semi-arid Tropics(ICRISAT) has been monitoring trends in technology adoption, viability of crop and live stock enterprises, underemployment and migration, resource degradation, investment patterns etc., through Village Levels Studies (VLS), which are being conducted in six representative villages since 1975. Two of the villages from Mahbubnagar District of Andhra Pradesh with low and uncertain rainfall and shallow red-soils and two from Solapur District in Maharashtra represents deep black soil areas with low and uncertain rainfall and post rainy season cropping. Another pair from Akola District in Maharashtra represents medium black soils with assured rainfall conditions. A sample of 40 households from each of these six villages was studied intensively between 1975 and 1985. Subsequent surveys were carried out in 1989 and 1992-93 in these villages. These Villages Level Studies were resumed since 2001-02 on a regular basis with enlarged samples and additional modules. All these six villages witnessed considerable changes in the agrarian structure, enterprise mix, labour market conditions and investment options over the three decades.

In a land-scarce country like India, inequalities in access to land are quite striking. There has been a rapid increase in the rural population and the available land per rural person has shrunk from 0.33 ha in 1971 to 0.20 ha in 2001. In 1970, there were 70 million holdings and by 1995 they increased to 116 million and the average size of holding came down by 45 per cent to 1.41 ha. In contrast to the situation in India in particular and South Asia in general, areas of low population density in Africa do not exhibit any dramatic inequalities in land tenure.

At the time of independence, the agrarian relations in several parts of India were essentially feudal. The Union and State governments enacted several legislations to abolish intermediaries; to secure title and occupancy rights for tenants; to control rents paid by tenants; to limit holding size; and to consolidate holdings. But many of them were not implemented well enough to reduce economic inequality in the rural India as was done in case of Southeast Asia (Hayami, 1981). In the last two decades, issues related to the agrarian structure and skewed distribution of land holdings have receded in importance

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on the agricultural policy agenda. There is also a consensus on the pattern of agrarian change since the eighties. A significant and steady decline in the area under large holdings and a rise in both the total area and number of small and marginal holdings was documented by several analysts using diverse data sources Laxminarayana and Tyagi (1982), NCAER (1986) and Bussink and Subba Rao (1986). Walker and Ryan (1990) also presented evidence from in-depth village studies in India's Semi-arid tropics endorsing these trends. We present more recent evidence from the same villages based on the data from a retrospective survey carried out in 2001, marking the resumption of the village surveys to understand the agrarian issues of the twenty first century.

Inequality in land ownership

Inequality in the distribution of land holdings decreased in four of the six villages, but increased in the other two villages (Table 1). In both the Solapur villages, the inequality in land ownership declined. In Mahabubnagar district, the inequity in land ownership declined in Aurepalle, but increased in Dokur. Similarly, the results were mixed in case of Akola district also. The Gini coefficient decreased in case of Kanzara, but increased in case of Kinkheda. The average value of the gini ratios in the six villages dropped from 0.4920 in 1985 to 0.4519 in 2001, indicating an improvement in the distribution of land holdings in the six SAT villages.

Table-1: Gini Coefficients of land distribution in VLS villages

Year	Aurepalle	Dokur	Shirapur	Kalman	Kanzara	Kinkheda	Average of six villages
1985	0.5489	0.4828	0.4977	0.4260	0.6148	0.3815	0.4920
2001	0.3907	0.5218	0.4819	0.3924	0.4630	0.4541	0.4519

Walker and Ryan (1990) also observed similar trends in their retrospective survey carried out in 1984 with the 240 respondent households in the six villages. They have used Lorenz curves to draw conclusions about the changes in equality of land ownership and found that the land ownership distribution in 1982 showed less inequality than that in 1950 in case of the four villages, Aurepalle, Kalman, Shirapur and Kanzara. They could not draw unambiguous conclusions about changes in equality of land ownership in Dokur and Kinkheda villages because the Lorenz curves crossed. They found that there was a greater equality in land ownership even in these two villages among the 80 per cent of the population owning 40 per cent of the land and less equality among the top two deciles. But the households in the top two deciles in 1950 were not the same as in 1982 as a substantial churning of land ownership has occurred.

Another way of studying the inequality is by comparing the mean and median values of land holdings and looking at the percentage difference between the two. If the land holdings are distributed normally, then the mean and median values will be the same. But since the distribution of land holdings is generally positively skewed, the median lies far below the mean and the degree of difference between the two indicates the degree of inequality. The two measures of Central tendency; mean and median are computed for the distributions of ownership holdings in each of the six villages for the two years, 1985 and 2001 and are presented in table 2.

**Table-2: Means and Medians of ownership holdings in VLS villages:
1985 and 2001 (acres)**

Village	1985			2001		
	Mean	Median	Percentage difference	Mean	Median	Percentage difference
Aurepalle	3.7	2.2	70	4.3	3.8	15
Dokur	2.6	1.8	46	3.4	2.0	71
Kalman	14.0	9.0	56	7.58	6.0	26
Shirapur	9.0	5.0	80	5.19	3.0	73
Kanzara	11.0	4.0	175	7.48	4.0	87
Kinkheda	7.4	5.5	35	7.2	4.2	72
Average	7.95	4.58	74	5.86	3.83	53

The results closely correspond and confirm the findings coming out from table 1. The average percentage difference between mean and median was 74 in 1985 and it dropped to 53 in 2001. The Dokur and Kinkheda villages, where land inequality increased, the percentage difference between mean and median showed an increase. In case of the other four villages, the decrease in land inequality is reconfirmed by a decrease in the percentage difference between mean and median. Overall, the inequality in land ownership seems to have declined.

The average size of holding increased in both the Andhra Pradesh villages between 1985 and 2001, by 16 per cent in Aurepalle and by 31 per cent in Dokur. Yet, the average size of holding in Andhra Pradesh villages is much lower than that in Maharashtra villages. In all the four Maharashtra villages, the average size of holding showed a decrease between 1985 and 2001. The decrease was the sharpest in Kalman (46 per cent), followed by that in Kanzara (32 per cent). Relatively, the decrease in size of holding was moderate in the other two villages. In Shirapur, the average size of holding declined by 27 per cent, while the decrease was negligible (3 per cent) in Kinkheda. The median size of holding increased only in Aurepalle while it remained the same in Kanzara village. In all the other four villages, the size of the median holding declined. The average values of both mean and median across the six VLS villages declined between 1985 and 2001.

Changes in land holdings and reasons

Aurepalle:

In Aurepalle, land distribution has become more egalitarian in 2001 when compared to that in 1985. 19 households who were landless in 1985 became land owners in 2001. Eight of them got land in family division, while eight of them purchased land. Another three households acquired land both by family division as well as by purchase. 16 of these 19 households belonged to the backward castes while the other three belonged to the scheduled castes. All of them belonged to medium and small farm categories and labour category. Seventeen households registered an increase in the size of ownership holding through land purchases. Nine of these households belong to large farmer category, while another seven belonged to medium farmer category. Only one of them was a small farmer. In terms of caste, 10 of these 17 households belonged to backward castes. Three

belonged to the forward (reddy) caste, while the remaining four belonged to the scheduled castes. Four households sold away their land and became landless. Five households (three from large farmer category and two from medium farmer category) sold a part of their land holding and consequently had reduced sizes of holding. Four other households suffered reduction in sizes of holding due to family divisions. 36 households did not experience any changes in their sizes of holding. Both those who purchased the land as well as those who sold the land are drawn from all communities.

Table 3 summarizes the pattern of land distribution in Aurepalle village during 1985 and 2001 both caste-wise and class-wise. The share of the forward community (reddy) households remained the same in both the periods. The shares of two backward communities in the land holding improved. Gouds, who tap and sell toddy and Kurmas who rear small ruminants could increase their shares to some extent, while those belonging to other communities lost their share in land ownership. Among the scheduled castes, Madigas (Chamars) could increase their share of land holding marginally but Malas (Mahars) lost their share in land ownership to some extent.

The number of large farmers decreased from 30 to 13, but their share in land ownership increased from 47 to 51 per cent. The medium category farmers increased in number from 31 to 48, but their share in land ownership remained constant at around 39 per cent. The number of small farmers increased from 14 to 33, yet their share in land ownership came down from 13 to 9 per cent. Thus, there is an increasing concentration of land ownership at the upper end, while landless households decreased in number. The intermediate castes (other backward castes) improved their shares in land ownership. While the educated persons from the forward castes look at business and formal service sectors outside the village for their upward mobility, the workers from the scheduled and backward castes look at the informal service sector in the urban areas for their survival and better opportunities.

Table -3: Caste-wise and Class-wise distribution of ownership holdings in Aurepalle village

Caste/Class	1985				2001			
	No.	Percentage to total	Area (acres)	Percentage to total	No.	Percentage to total	Area (acres)	Percentage to total
A) Caste-wise								
i) Goud (BC)	18	21.2	127	40.2	31	36.5	156	42.4
ii) Madiga (SC)	16	18.8	21	6.5	16	18.8	27	7.2
iii) Mala (SC)	7	8.2	38	12.0	8	9.4	31	8.4
iv) Kurma (BC)	9	10.6	49	15.4	11	12.9	70	19.1
v) Reddy (FC)	7	8.2	41	12.8	7	8.2	47	12.8
vi) Others	9	10.6	42	13.2	8	9.4	37	10.1
B) Class-wise								
Landless (<0.49 ac)	25	25	6	0.2	6	6	0.3	0.08
Small (0.49 to 2.96 ac)	14	14	42	13.2	33	33	35	9.28
Medium (2.96 to 7.91 ac)	31	31	126	39.5	48	48	147	39.40
Large (>7.91 ac)	30	30	150	47.1	13	13	192	51.24

Dokur

Just as in case of Aurepalle, the average size of holding increased in Dokur also. The total area under ownership holdings increased due to assignment of government lands and wastelands. However, this village suffered due to consecutive droughts and drying up of irrigation tanks. Fallowing of land has become common resulting in unemployment. Migration to distant places in search of work has become the order of the day.

Six households who were landless in 1985 acquired some land by 2001. Four of them purchased land, while two of them received land from the government free of cost. Four of these six households belong to small farmer category, while one each belonged to labour and medium categories respectively. Five of them belonged to the backward castes, while one belonged to the forward community (reddy). During this period, three households turned landless as they sold off their land. They are drawn from one forward community (vysya) and two backward communities (Goud and Batturaj). Sixteen households experienced an increase in their size of holding by purchasing land. Seven of them belong to the large farmer category and five of them belong to the small farmer category. Two each of them are drawn from medium farmer and labour category. At the same time, four of the households experienced a decline in their holdings due to sale. Three of these belong to large farmer category and the fourth one to the medium farmer category. Four each from those who increased their land holding through purchase are drawn from one forward community (reddy) and three backward communities (telaga, golla and batturaj). Similarly, those who sold land also belonged to telaga, golla and reddy communities. No change in land holdings was noted in case of forty sample households.

The caste-wise and class-wise distributions of ownership holdings in Dokur village are presented in table 4. The share of reddy (forward) community in land ownership increased from 31 to 36 per cent between 1985 and 2001. The backward Golla community (sheep rearers) also increased its share in land holding from 20 to 25 per cent. The share of telaga community, another backward caste, remained about the same. The shares of all other communities dropped.

The share of large farmers in the total land owned in the village increased substantially from 45.4 to 56.2 per cent. The share of small farmers decreased sharply from 26.3 per cent to 18.4 per cent, while that of medium farmers decreased moderately from 28.3 per cent to 25.4 per cent. Because of this worsening distribution of land, the gini coefficient increased from 0.4828 to 0.5218.

Table- 4: Caste-wise and Class-wise distribution of Ownership holdings in Dokur village

Caste/Class	1985				2001			
	No.	Percentage to total	Area (acres)	Percentage to total	No.	Percentage to total	Area (acres)	Percentage to total
A) Caste-wise								
i) Telaga (BC)	15	21.7	31	17.3	16	23.2	41	17.1
ii) Reddy (FC)	12	17.4	54	30.9	13	18.8	85	35.8
iii) Musthi (BC)	6	8.7	20	11.4	7	10.1	21	8.9
iv) Golla (BC)	8	11.6	36	20.2	9	13.0	61	25.6
v) Boya (BC)	7	10.1	13	7.1	7	10.1	1.3	5.3
vi) Madiga (SC)	3	4.3	3	1.4	3	4.3	3	1.1
vii) Others	12	17.4	21	11.8	11	15.9	15	6.3
B) Class-wise								
i) Landless (<0.49 ac)	7	8.7	0	0.0	4	5.0	0	0.0
ii) Small (0.49 to 2.22 ac)	44	55.1	47	26.3	41	52.2	44	18.4
iii) Medium (2.22 to 5.19 ac)	16	20.3	50	28.3	20	24.6	60	25.4
iv) Large (>5.19 ac)	13	15.9	81	45.4	15	18.8	135	56.2

Kalman

Out of 94 sample households in Kalman, 20 were landless in 2001. 27 sample households out of 74 land owning households did not experience any changes in their ownership holdings. Between 1985 and 2001, one landless household got ownership right through family division. Two households who owned land in 1985 became landless in 2001. One of them lost land due to family division, while the other household sold it. Six households increased their sizes of holding through purchase of land. Five of them belonged to small farmer category while the other one belonged to large farmer category. Four of the land purchasers belonged to the forward Maratha caste and the other two belonged to a backward caste, Mali. 38 households experienced a reduction in their sizes of holding but 36 of these had reduced land ownership due to family division. Two others had smaller holdings due to sale of a part of their land. Both those who sold the land belonged to the small farmer category. One of them was from a forward caste while the other belonged to a backward caste. Those who had reduced holdings due to family division are drawn from all land classes and castes. The caste-wise and class-wise distribution of ownership holdings in Kalman village is presented in table 5.

There was an increase in the shares of Maratha and Lingayat (both forward castes) in the total land owned in Kalman village between 1985 and 2001. The shares of two other backward castes, Mali and Dhangar showed a decrease. The combined share of all other castes also showed a marginal increase. But in terms of classes, there was an improvement in the shares of small and medium sized farms. Both the number of farms falling in these categories as well as their shares in the total land owned in the village has increased. It is largely on account of sub-division of holdings. The share of large farms declined from

56.6 per cent in 1985 to 20.2 per cent in 2001. The land distribution between classes improved and it has also shown up in the reduction in the value of gini coefficient.

Table -5: Caste-wise and Class-wise distribution of Ownership holdings in Kalman village

Caste/Class	1985				2001			
	No.	Percentage to total	Area (acres)	Percentage to total	No.	Percentage to total	Area (acres)	Percentage to total
A) Caste-wise								
i) Maratha	40	54.1	637	61.8	39	52.7	360	64.2
ii) Mali	10	13.5	114	11.1	9	12.2	55	9.7
iii) Dhangar	10	13.5	182	17.7	10	13.5	74	13.2
iv) Lingayat	4	5.4	21	2.0	5	6.8	21	3.7
v) Others	9	12.2	77	7.5	9	12.2	52	9.2
B) Class-wise								
i) Landless (<0.49 ac)	1	1.4	-	-	2	2.7	-	-
ii) Small (0.49 to 8.89 ac)	36	48.7	184	17.8	55	74.3	277	49.2
iii) Medium (8.89 to 21 ac)	19	25.7	264	25.6	13	17.6	172	30.6
iv) Large (>21 ac)	18	24.3	583	56.6	4	5.4	113	20.2

Shirapur

In case of Shirapur, there was an improvement both in terms of class-wise as well as caste-wise distribution of ownership holdings between 1985 and 2001. Two landless households, one each belonging to Dhangar (backward caste) and Gondali (Nomadic tribe) acquired land by purchasing it from others. Three land owners, all belonging to Maratha community, turned landless between 1985 and 2001 due to sale or family division. Out of the eight households who purchased land and increased their sizes of holding, four belonged to the medium farmer category; three belonged to small farmer category and one to the large farmer category. Caste-wise, four of them belonged to Dhangar caste (backward), one to the scheduled caste (Mahar) and three to the forward castes (Maratha and Rajput). Seven households had reduced ownership holdings due to sale. Six of them belonged to small farmer category and one to the large farmer category. In terms of caste affiliation, four of them were Marathas (forward caste) and the other three belonged to backward castes (one each to Kumbhar, Dhangar and Koshti). 19 farmers experienced reduction in size of holdings due to family division and they are drawn from all classes (1 large, 5 medium and 13 small) and castes (12 Maratha, 3 Dhangar, 2 Mahar, 1 Gondali and 1 Gavali). The remaining 30 households did not experience any change in their holding sizes. Table 6 presents the caste-wise and class-wise distribution of owned land in Shirapur village.

Table- 6: Caste-wise and class-wise distribution of owned land in Shirapur

Caste/Class	1985				2001			
	No.	Percentage to total	Area (acres)	Percentage to total	No.	Percentage to total	Area (acres)	Percentage to total
A) Caste-wise								
i) Maratha (FC)	40	58.0	471	75.5	37	53.6	205	57.2
ii) Dhangar (BC)	12	17.4	78	12.5	13	18.8	85	23.6
iii) Mahar (SC)	6	8.7	19	3.0	6	8.7	18	5.0
iv) Others	9	13.0	56	9.0	10	14.5	51	14.2
B) Class-wise								
i) Landless	2	2.9	0	0	3	4.35	0	0
ii) Small (<4.94 ac)	30	43.48	69	13.19	43	62.32	117	31.66
iii) Medium (4.94 -13.1 ac)	20	28.99	136	28.99	17	24.64	132	35.69
iv) Large (>13.1 ac)	17	24.64	319	60.78	3	8.70	120	32.65

The share of the dominant caste, Maratha, in land ownership dropped from 75.5 per cent to 57.2 per cent. The shares of Dhangar (Backward caste), Mahar (Scheduled caste) and other castes (mixed) increased considerably, signaling a more equal distribution of land in 2001 when compared to that in 1985 among the households belonging to different castes. Due to family divisions and sub-division of holdings, the sizes of holding have become smaller. There were 17 large farmers in 1985, but this number dropped to 3 in 2001. Large farmers together held 61 per cent of the land in the village in 1985 but their share dropped to 33 per cent in 2001. The number of medium sized holdings also dropped marginally from 20 to 17 but their share in land holding increased from 26 per cent to 36 per cent. The number of small farms increased from 30 to 43 and their share in total land holding increased from 13 per cent to 32 per cent. The reduction in inequality in land ownership is also mirrored in the decrease in the value of gini coefficient.

Kanzara

In Kanzara, seven landless households acquired land either by purchase (four of them) or by family division (three of them). Two households lost land due to family division. One of them belonged to a backward caste (goldsmith) and the other to the scheduled caste. Those who gained land belong to small (four farmers) and medium (three farmers) categories and are drawn from a diverse group of castes. Four of them belong to backward castes, while one each belonged to Maratha (Forward caste), Muslim and Scheduled caste.

Eight farmers could increase their sizes of holding. While six of them achieved it through purchase, the other two were benefited from gifts. Four of those who purchased land belong to medium size group while the other two belonged to large size group. One of the two who received gift of land still belonged to labour class (<0.5 acres), while the other belonged to medium size group. In terms of caste affiliation, two Marathas and six backward caste persons could increase their holding sizes. 14 households experienced a reduction in their sizes of holding. 12 of them had reduced holdings due to family partitions, but the other two sold a part of their holdings. One of those who sold land fell into the

labour class, while the other is in the small farmer category. Those who experienced family partition belong to large (3), medium (5) and small (4) categories. Both those who sold land belonged to weaker sections, one to the scheduled caste and the other to the backward caste. Those who experienced a reduction in the size of holdings are drawn from all communities. They included five marathas, six backward caste persons, and one muslim. There was no change in the sizes of holdings of 10 households. The caste-wise and class-wise distribution of ownership holdings in Kanzara village is shown in table 7.

Table -7: Caste-wise and class-wise distribution of ownership holdings in Kanzara village

Caste/Class	1985				2001			
	No.	Percentage to total	Area (acres)	Percentage to total	No.	Percentage to total	Area (acres)	Percentage to total
A) Caste-wise								
i) Mali (OBC)	9	22	40	9.2	13	31.7	55	17.9
ii) Boudha (SC)	6	14.6	18	4.1	6	14.6	21	6.7
iii) Maratha (FC)	6	14.6	173	39.7	6	14.6	102	33.1
iv) Gosavi (OBC)	3	7.3	76	17.4	4	9.8	73	23.7
iv) Others	10	24.4	129	29.6	10	24.4	57	18.6
B) Class-wise								
i) Landless	7	17.1	0	0	2	4.9	0	0
ii) Small (0.49-4.45 ac)	17	41.5	78	11.2	22	53.7	68	22.2
iii) Medium (4.45-13.1 ac)	8	19.5	58	13.3	10	24.4	80	25.9
iv) Large (>13.1 ac)	9	22.0	329	75.5	7	17.1	159	51.9

Among the castes, the shares of the two backward communities, Mali and Gosavi have increased considerably. Both the number of land owning households and the area owned by them increased in case of these two communities. The number of Maratha farmers remained the same, but their share in land ownership decreased from 39.7 to 33.1 per cent. The number of scheduled caste farmers also remained the same but they were able to increase their share from 4.1 to 6.7 per cent. Other castes have lost their share in land ownership from 29.6 to 18.6 per cent. Although the forward community still owns one-third of the land, it has lost its share considerably between 1985 and 2001 and the backward and scheduled castes have improved their shares in land ownership. Same trend was noted in case of land distribution among the classes. The number of large farmers has gone down from 9 to 7 and their share in land ownership dropped from 75.5 per cent to 51.9 per cent. The numbers of small and medium farmers have gone up as also their shares in land ownership. In fact, the shares of both these groups have doubled in this period.

Kinkheda

Just as in case of Dokur, the land concentration has increased in land distribution both in terms of castes as well as in terms of classes in Kinkheda, which is also reflected in the higher value of Gini coefficient for 2001 as against that in 1985.

One Maratha farmer who was landless in 1985 became a landowner in 2001, although he is still categorized as a labour class person (less than 0.5 ac). No landowner in 1985 has become landless in 2001. Three households increased their sizes of holding through purchases of land. One of them was a large farmer, while the other two were small farmers. One each of them belonged to forward caste (Maratha), other backward caste (Sutari) and Nomadic tribe (Govari). 13 households experienced a reduction in their sizes of holding. Five of them sold a part of their holding while the remaining was affected by family division. Those who sold land belonged to labour and small farmer categories. Those who were affected by family division belonged to small and medium farmer categories. Eight households did not experience any change in their sizes of holding. Those who had reduced land holdings either due to sale of land or family division, belonged to different communities drawn from forward castes, backward castes and nomadic tribes.

The caste-wise and class-wise distributions of land ownership in Kinkheda are presented in table 8. The share of Marathas (Forward caste) in land ownership has increased from 47.0 to 59.2 per cent. There was a corresponding drop in the share of the Dhangars from 33.5 per cent to 21.5 per cent.

Table - 8: Caste-wise and Class-wise distribution of land holdings in Kinkheda village

Caste/Class	1985				2001			
	No.	Percentage to total	Area (acres)	Percentage to total	No.	Percentage to total	Area (acres)	Percentage to total
A) Caste-wise								
i) Maratha (FC)	9	36	87	47.0	10	40.0	106	59.2
ii) Dhangar (BC)	7	28	62	33.5	7	28.0	38	21.5
iii) Govari (NT)	4	16	18	9.7	4	16.0	16	9.0
iv) Others	4	16	18	9.7	4	16.0	18	10.3
B) Class-wise								
i) Landless	1	4	0	0	0	0	0	0
ii) Small (0.49-4.94 ac)	10	40	33	17.7	16	64	53	29.8
iii) Medium (4.94-11.12 ac)	8	32	62	33.8	5	20	41	23.0
iv) Large (>11.12 ac)	6	24	90	48.6	4	16	84	47.2

The share of Govari community (nomadic tribe) marginally dropped from 9.7 to 9.0 per cent, while that of other castes marginally increased to 10.3 from 9.7 per cent. Large farmers retained a share of 47.2 per cent as against the original share of 48.6 per cent even when their number dropped from six to four. Both the number of farmers as well as their share in the total land owned increased in case of the small farmers. But the converse happened in case of the medium farmers. In case of caste-wise distribution, the land has definitely concentrated in the hands of the upper castes. But the results in case of class-wise distribution do not give a clear trend. While there has been a general trend in favour of an egalitarian distribution, the top four sample households had as much as 47 per cent of the land owned. As a result, the gini coefficient increased between 1985 and 2001. The results from the analysis of land distribution patterns can be summarized in table 9.

Table -9: Trends in the patterns of land distribution in six SAT villages (2001-04 vis-à-vis 1975-78)

S.No	Village	Across Castes	Across Classes	Overall
1	Aurepalle	Egalitarian	Less Egalitarian	Egalitarian
2	Dokur	Less Egalitarian	Less Egalitarian	Less Egalitarian
3	Kalman	Less Egalitarian	Egalitarian	Egalitarian
4	Shirapur	Egalitarian	Egalitarian	Egalitarian
5	Kanzara	Egalitarian	Egalitarian	Egalitarian
6	Kinkheda	Less Egalitarian	Egalitarian	Less Egalitarian

Although the general trend was in favour of more egalitarian distribution of land in the six SAT villages, there were exceptions in some villages. In the two Mahabubnagar villages, where the land owned by the sample farmers has increased, there was an increase in the concentration of land ownership in the large farmer category. But in the four Maharashtra villages, where the total land owned by the sample farmers has fallen substantially, there was a more egalitarian distribution of land among different classes. The evidence was mixed in case of the ownership of land by the upper castes. In three villages, the share of the forward castes increased while it decreased in the other three villages. Although there was some churning in case of land ownership, it was not strong enough to upset the social or economic ranking of villagers.

Table - 10: Measures of rank correlation between land ownership ranks in 1985 and 2001 in the six SAT villages

S.No.	Name of the village	Rank correlation coefficient
1	Aurepalle	0.65***
2	Dokur	0.70***
3	Kalman	0.58***
4	Shirapur	0.41***
5	Kanzara	0.70***
6	Kinkheda	0.66***

Note : ***indicates the significance at one per cent level

Table 10 contains the measures of rank correlation between the land ownership ranks in 1985 and 2001. The fact that the rank correlation values are quite high and statistically significant leads us to the conclusion that the economic order did not change significantly in the six SAT villages.

Reverse Tenancy

In the early decades after Independence, it was quite common to observe the landless, marginal and small farmers leasing in land from the large farmers and, sometimes, even from the medium farmers in order to employ them and to earn some income, besides having the satisfaction of working on their own piece of operational holding. But, over the years, as the holding sizes became smaller and as the rural poor started looking at off-farm and non-farm employment options, the practice of small and marginal farmers leasing out their land to medium and large farmers has become more common. This practice has come to be known as the 'reverse tenancy'. The percentage shares of different

classes of farmers in the owned and operated areas in the six SAT villages are presented in table 11 to examine the debate on tenancy and reverse tenancy. In the Semi-arid tropics where the crop yields are quite uncertain, the size of 'viable' operational holding tends to be very high. Hence, there is a tendency on the part of small and medium farmers to lease out a part or whole of their ownership holdings to those with much higher endowment of land. Some of the small farmers have leased out their land to larger farmers. In all the six villages, small farmers have leased out their land both in 1985 and 2001. Even in Maharashtra, medium farmers have leased out land in all the villages except Kalman. In 2001, medium farmers in Kanzara have leased in land. In all the villages, large farmers have leased in land in 1985.

Even in 2001, same trend continued in all the villages except in Kanzara, where large farmers leased out land to the medium size group farmers. The data from the six villages from the Semi-arid tropical areas in Maharashtra and Andhra Pradesh, lend strong support to the practice of reverse tenancy. Even while the distribution in ownership holdings has become more egalitarian, the practice of reverse tenancy has been strengthened further. This finding has a policy implication for defreezing the lease markets in the Semi-arid tropical areas of India.

Table -11: Percentage shares of different classes in operated area in VLS villages

S.No.	Village/area	1985			2001		
		Small	Medium	Large	Small	Medium	Large
1	Aurepalle						
	(a) Owned	13.24	39.49	47.07	12.93	54.16	32.83
	(b) Operated	12.97	39.05	47.78	8.04	48.03	43.87
	(c)Difference (Operated-own)	-0.27	-0.44	0.71	-4.89	-6.13	11.04
2	Dokur						
	(a) Owned	26.26	28.31	45.43	18.39	25.40	56.21
	(b) Operated	22.60	28.14	49.26	15.49	24.43	60.08
	(c)Difference (Operated-own)	-3.66	-0.17	3.83	-2.90	-0.97	3.87
3	Kalman						
	(a) Owned	17.84	25.63	56.53	49.25	30.58	20.16
	(b) Operated	16.14	26.11	57.75	47.26	31.12	21.62
	(c)Difference (Operated-own)	-1.70	0.48	1.22	-1.99	0.54	1.46
4	Shirapur						
	(a) Owned	13.19	26.02	60.78	31.66	35.69	32.65
	(b) Operated	12.78	22.82	64.40	28.30	36.74	34.96
	(c)Difference (Operated-own)	-0.41	-3.20	3.62	-3.36	1.05	2.31
5	Kanzara						
	(a) Owned	11.16	13.32	75.52	22.19	25.91	51.90
	(b) Operated	7.73	10.85	81.42	20.54	34.60	44.86
	(c)Difference (Operated-own)	-3.43	-2.47	5.90	-1.65	8.69	-7.04
6	Kinkheda						
	(a) Owned	17.66	33.75	48.59	29.83	22.99	47.18
	(b) Operated	14.06	25.05	60.79	26.39	21.18	52.43
	(c)Difference (Operated-own)	-3.50	-8.70	12.20	-3.44	-1.81	5.25

The present tenancy acts seek to protect the tenants based on the premise that it is the rural poor who lease in land. But when they are actually leasing out, tenancy acts may not serve the intended purpose. They only promote oral tenancy agreements. The tenants are unable to access credit from the institutional sources in the absence of written tenancy agreements, which forces them to depend on non-institutional sources of credit at much higher rates of interest.

Land as a source of Income

Even where land distribution has become more egalitarian, it cannot be said that the living standards of the households have improved on account of land ownership. Infact, the returns to land and management, which were positive figures for all the villages during 1975-78, have turned negative in case of three out of six villages (Dokur, Kalman and Shirapur). In case of Aurepalle and Kinkheda, these figures are positive but are much lower than the present values of the figures for 1975-78 period. Only in case of Kanzara, the returns to land and management were about the same in real terms. The comparative figures of returns to land and management for the periods, 1975-78 and 2001-04 are presented in table 12.

**Table - 12: Returns to land and management in VLS villages
(1975-78 and 2001-04)**

S.No	Name of the village	Returns to land and management (Rs per household)	
		1975-78	2001-04
1	Aurepalle	1145 (7374)	885
2	Dokur	1368 (8810)	-52
3	Shirapur	1234 (7947)	-722
4	Kalman	907 (5841)	-2366
5	Kanzara	2059 (13260)	11854
6	Kinkheda	1243 (8005)	2562
	Average of all villages	1326 (8539)	2027

Figures in parentheses represent present values of 1975-78 returns

The results presented in table 12 lead us to believe that the returns to land and management have fallen substantially over the 26 years period in the six SAT villages. The total household income has increased in all the six villages while the income from crops declined and income from livestock was stagnant. But income sources have become more diversified in 2001-04 when compared to 1975-78.

The contributions of non-farm employment, out migration, salaried jobs, business and caste occupations have increased impressively to cover the short fall from crops and livestock. The estimates of household income in the six SAT villages are presented in table 13.

Table- 13: Estimates of household income in the six SAT villages in 1975-78 and 2001 - 04 (Rs/year)

S.No	Village	Estimated income in 1975-78		Estimated income at 2001-04 prices
		At 1975-78 prices	At 2001-04 prices	
1	Aurepalle	2361	15205	34059
2	Dokur	2967	19107	38651
3	Shirapur	2955	19288	59805
4	Kalman	1942	12506	57011
5	Kanzara	3856	24833	56731
6	Kinkheda	2522	16242	37861
	Average of six villages	2767	17864	47353

The average household income has increased, on an average, by 165 per cent in the SAT villages. The new sources of income have accrued because of education, skills acquired and enterprising nature. It is the labor force and its quality, which helped the households secure higher incomes in 2001-04 rather than the endowments of land and livestock, which were the primary determinants of income in 1975-78. The increases in real wages in the six SAT villages are furnished in table 14.

Table- 14: Real wages of different categories of labour in six SAT villages

S.No	Village	Sales of male permanent labour (annual contracts)		Wages of daily-rated labour			
		1975-78*	2001-04	Male		Female	
				1975-78*	2001-04	1975-78*	2001-04
1	Aurepalle	4198 (636)	8376	16.5 (2.50)	65	8.25 (1.25)	27
2	Dokur	4831 (732)	6250	18.15 (2.75)	68	9.90 (1.50)	39
3	Shirapur	4950 (750)	14833	21.45 (3.25)	97	9.90 (1.50)	20
4	Kalman	5069 (768)	12300	18.15 (-2.75)	66	9.04 (1.37)	32
5	Kanzara	8554 (1296)	18934	29.70 (4.50)	64	14.85 (2.25)	23
6	Kinkheda	8554 (1296)	14400	28.05 (4.25)	64	13.2 (2.00)	24
	Average	6026 (913)	12516	22 (3.33)	70.67	10.86 (1.65)	27.5

Three essential reasons can be identified for this trend. The feudal forces, which were holding a sway in the villages, are considerably weakened. They are no longer in a position to control the wages in the village labour market. Secondly, there is an integration

of labour markets in the village with those in the urban areas and far-off places. Thirdly, the education and skill levels of the labour force have improved due to which they are in a position to secure higher wages. As a result of all these forces, the real wages of agricultural labour have also registered an impressive growth. The remuneration paid to the 'permanent' servants who are engaged by the farmers on an annual contract have more than doubled (from Rs 6026 to Rs 12516). This increase is sharper in Solapur villages where non-farm sources of income are more abundant. The real wages of male casual labour increased by 221 per cent, while the increase was 153 per cent in case of the female casual labour. Since the real wages of male casual labour increased much faster than the annual salaries of permanent servants (on annual contracts), very few male labourers are accepting the annual contracts and the practice of permanent servants is gradually becoming extinct. When the labour markets were segmented and alternative employment opportunities were limited during 1975-78, adult male labourers were seeking security of employment by accepting the annual contracts even though it meant longer working hours and showing unflinching loyalty to the masters who engage them. But as the improvements in roads and communication facilitated the integration of labour markets and opened up alternative employment opportunities, the real wages increased and labourers preferred casual employment over annual contracts. Farmers are now offering interest-free advances ranging from Rs 10,000 to Rs 15,000 to attract male labourers to work as permanent servants on annual contracts. There are many instances of male workers accepting advance payments to work as permanent servants but not fulfilling the contracts. In the past, landlords were paying advances but were charging high rates of interest and they were able to enforce the contracts because of the stranglehold they had on the working class. But presently the advances are interest-free and even then the landowners are not able to enforce them due to the changed socio-economic and political conditions.

In fact, more than the egalitarian distribution of land, the release of labourers from the yoke of feudal exploitation has helped the small and marginal farmers and agricultural labourers to assert themselves and look for alternative livelihood options. Similarly, sheep rearers and toddy tappers are able to realize better prices for their products and are able to improve their lot in the Mahabubnagar villages. Non-farm employment opportunities and salaried jobs in the informal sector have helped the labourers in Solapur villages to receive better real wages over the years. Intensification of agriculture together with alternate livelihood options has caused income increases in Akola villages also. Everywhere, it is the endowment of labour, which has emerged as the important determinant of income and progress of households rather than the ownership of land, which was an important determinant of income and prosperity in the base years.

Labour use

Intensity of labour use per hectare has increased mainly on account of increased coverage under irrigation and shift towards commercial crops. The estimated intensities of labour use for the three SAT villages are shown in table 15.

The use of male labour has increased by 48 per cent, while the female labour use has increased by 33 per cent. Female labour use more than doubled in Aurepalle in Mahabubnagar district, while the male labour use increased sharply in the two Maharashtra villages.

Table 15: Intensity of labour use in three SAT villages (hrs/hectare)

S.No	Village	Male		Female		Total	
		1975-83	2001-04	1975-83	2001-04	1975-83	2001-04
1	Aurepalle	192	203	204	469	396	672
2	Shirapur	176	333	174	201	350	534
3	Kanzara	218	328	286	216	504	544
	Average of three villages	195	288	221	295	416	583

In spite of increased labour use in crops, male and female labourers in the SAT villages are able to find employment for only 144 and 132 days in a year respectively, due to growth in labour force. They are therefore seeking work in off-farm activities and in distant labour markets during the non-peak periods of labour demand. There is a considerable migration of labour force from Mahabubnagar villages, while off-farm work opportunities are saving them from underemployment.

Despite increases in real wages and real incomes of the households, about one-third of the households are still below the poverty line in the six SAT villages taken up for study. These villages are facing environmental degradation in terms of unabated soil erosion and groundwater depletion. In years of drought, even drinking water is a problem. The water table in the wells is going deeper and deeper year after year. In the face of such an environmental degradation, the sustainability of even the present low levels of crop yields and incomes is at risk. These rainfed areas require massive investments for watershed development in order to arrest the degradation of environment and to provide opportunities for self-employment as well as wage employment. The National Employment Guarantee scheme could be used to take up activities like control of soil erosion, water harvesting and recycling etc.

VLS Approach

The village level studies of ICRISAT are tracking a set of sample households over the last three decades period. The resident investigators are able to earn the trust of the villagers in general and of the respondents in particular. Because of a rigorous schedule for data collection and verification, the quality of data is very good. As the investigators know each respondent well, they are able to collect data with considerable precision. The investigators act as non-participant observers of the sample households and are able to supplement the quantitative data with qualitative remarks and field notes. Because of the resources invested in the processes of data collection, verification and validation, the long-term panel dataset was used by several researchers from all over the world to test several theories of production, investment, risk behaviour and technology uptake. It was

recognized as an International Public Good (IPG) by the World academic and research community. Because of the high frequency (once in three weeks) of data collection, the recall errors are minimized and precision is maximized. In short, this approach closely approximates to a field level social science laboratory. The village level studies are able to attract students and researchers from several universities of world repute and they are being emulated by several national and international institutions.

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