

Agrarian Studies 7

Economic Change in the Lower Cauvery Delta

A Study of Palakurichi and Venmani

Edited by

Madhura Swaminathan, V. Surjit, V. K. Ramachandran



AGRARIAN STUDIES 7

ECONOMIC CHANGE IN THE LOWER CAUVERY DELTA

A Study of Palakurichi and Venmani

Edited by

Madhura Swaminathan

V. Surjit

V. K. Ramachandran



Contents

List of Tables, Figures, and Boxes	ix
Foreword	xxiii
Acknowledgements	xxv
1 Introduction <i>V. K. Ramachandran and Madhura Swaminathan</i>	1
I THE VILLAGES: SETTING THE SCENE	
2 Palakurichi, 1916–2019 <i>V. Surjit</i>	15
3 Venmani, 2019 <i>C. A. Sethu</i>	41
4 Classes <i>Arindam Das, Rakesh Mahato, Parvathi Menon, and V. K. Ramachandran</i>	52
II IRRIGATION AND WATER AVAILABILITY	
5 Irrigation <i>V. Surjit</i>	83
6 Aridification <i>Charu Chandra Devshali and T. Jayaraman</i>	94
III RESOURCES	
7 Landholdings <i>M. Thangaraj</i>	107
8 Livestock <i>A. Suresh</i>	144

9	Assets <i>Nelson Mandela S.</i>	163
10	Credit and Indebtedness <i>Madhura Swaminathan and Ritam Dutta</i>	182
IV EARNINGS		
11	Farm Business Incomes <i>V. Surjit and Arindam Das</i>	213
12	Employment and Wages <i>B. Satheesha and Jayan Jose Thomas</i>	238
13	Household Incomes <i>Tapas Singh Modak and Madhura Swaminathan</i>	259
V LIVING STANDARDS		
14	Education <i>Fumiko Oshikawa and Sanjukta Chakraborty</i>	291
15	Housing <i>R. Gopinath</i>	315
16	Cyclone Gaja <i>T. P. Harshan</i>	337
17	Covid-19 <i>C. A. Sethu and Tapas Singh Modak</i>	355
	Bibliography	365
	List of Contributors	375
	Index	377

Livestock

A. Suresh

HIGHLIGHTS

With the spread of mechanisation and decline in use of cattle as a source of draught power, the composition of livestock holdings has changed. Small ruminants – goats, in particular – have become the major component of livestock in the villages. Ownership of goats was widespread: 82 per cent of households in Palakurichi owned goats whereas only 25 per cent owned cattle.

Livestock were owned by households from all castes and classes. The proportion of livestock-owning households was higher among lower-income groups, but the average size of holding was higher among relatively better-off households. In Palakurichi, three-fourths of poor peasants owned livestock; the proportion was one-third among landlords and capitalist farmers. In standard livestock units, however, the size of holding among the latter was four times that among poor peasants.

While income from livestock constituted only 3 to 4 per cent of aggregate household income, among households affected by losses in crop production, incomes from livestock agriculture helped reverse the losses. Among all types of livestock, the returns-to-expenditure ratio was highest for goat farming. This can explain why goats were so widely owned especially among poorer households. Not surprisingly, incomes from livestock were distributed more equally than incomes from crop production.

With investment in better infrastructure (including veterinary care, extension and markets), livestock can provide income enhancement and less exposure to risk for poorer households.

INTRODUCTION

The lives and livelihood of people in Indian villages are closely related to livestock. However, the progress of mechanisation along with widespread usage of fertilizers in agriculture has weakened the crop-livestock linkage. The economic utility of cattle is reduced to that of a source of milk. Though cross-bred cattle are superior in milk-production capabilities, they are not preferred due to their increased disease-proneness compared to local cattle. The lack of green fodder in villages further accentuated the situation, as the hitherto available grazing lands were gradually transferred to other uses. Gradually, small ruminants like sheep and goats have attained widespread adoption due to their relatively low investment requirement, low maintenance expenditure, and high net return relative to expenditure. This makes small ruminants a major component of the livestock-holding pattern of smallholders and weaker sections of society (Suresh *et al.* 2008). Small ruminants are better suited for the arid and semi-arid regions of India and their population is increasing in such regions. The demand for meat and eggs continues to be high, and consequently, farming of small ruminants (goat and sheep), poultry (layer and broiler), and piggery have emerged as major enterprises.

Research Questions

The chapter uses data from village studies of Palakurichi and Venmani as well as official statistics to examine current patterns of livestock ownership across classes and changes in the structure of the livestock population over a period of time. Tracing this change and its reflection on various classes in the villages provides insights into the role the livestock sector plays in the broader socio-economic context. We argue that the role of livestock has changed from a supplier of milk for home consumption and input to crop farming by providing draught power to that of an income-generating asset, and thereby to livelihood security. An important question examined here is whether this transition has occurred across all socio-economic classes.

Secondly, it has been shown that the distribution of livestock is more egalitarian than the distribution of land (Taneja and Birthal 2004; Ali 2007). Even landless households participate in livestock farming by undertaking small-scale livestock enterprises (Birthal, Joshi and Gulati 2005; Kumar, Staal and Singh 2011). We examine the extent of livestock holdings across socio-economic classes.

Thirdly, the composition of livestock holding varies across classes and over time. We explain the observed pattern of holdings as a response to ease of

investment, relative returns over expenditure, and regularity of returns.

Fourthly, access to markets is an important determinant of incomes and returns from livestock, and so understanding market participation across socio-economic classes becomes important. Using detailed data on household incomes, our study tries to examine the role of income from livestock farming for households in different socio-economic groups.

CHANGES IN THE LIVESTOCK ECONOMY OF PALAKURICHI, 1918 TO 1983

Data from surveys of Palakurichi during the period from 1918 to 1983 show a decline in the population of draught animals and an increase in the populations of milch animals, small ruminants (sheep and goat), and poultry (Table 8.1). The population of draught animals increased from 199 in 1918 to 327 in 1970. With the mechanisation of agriculture, the population declined sharply and reached 76 in 1983. This tendency has continued, as we shall see in the next section. Correspondingly, the number of ploughs has declined, notably wooden ploughs fell from 150 in 1970 to 43 in 1983.

Tirumalai (1940) provides a vivid account of livestock in Palakurichi.

Table 8.1 *Trend in livestock population, carts, and ploughs, Palakurichi, 1918–83 in number*

Item	1918	1937	1970	1983
Draught animals	199	234	327	76
a. Cattle	191	222		
b. Buffalo	8	12		
Milk animals	175	211	160	269
a. Cattle	124	151		
b. Buffalo	51	60		
Calves	NA	131	173	206
Sheep and goat	427	259	282	498
Poultry	NA	NA	682	797
Horse	1	NA	NA	NA
Total livestock	802	835	1,624	1,846
Carts	29	52	24	30
Ploughs	91	128	182	86
• Wooden	91	NA	150	43
• Iron	0	NA	32	24
• Rotator	0	NA	NA	19

Note: NA – not available.

Sources: Slater, ed. (1918); Tirumalai (1940); and Guhan (1983).

The traditional cattle breeds were known as *Tanjore Mottai*. Farmers mainly purchased them from local markets or private owners through brokers. A pair of oxen was used for 8 acres which was 60–100 per cent higher than their normal working capacity. He-buffaloes were seldom used for work in drylands but were used in some wetlands. The price of a pair of bullocks ranged between Rs 40 to Rs 100 (Rs 75 on average); they worked for a period not less than five years, and were sold afterward for Rs 25. The price of a pair of he-buffaloes ranged between Rs 20 to Rs 50. Among the available oxen and he-buffaloes, 10 to 20 per cent were unfit for work and were kept for sentimental reasons. Some of the cultivating tenants purchased dregs at the cattle markets at extremely low prices and disposed of them once the cultivating season was over. This tendency of frequent purchase and sale of cattle was practiced as it was uneconomical to keep work animals during the off-season. The villagers spent little on feed (2 to 4 annas per head) and animals had to depend on grazing lands, *poramboke*, or wasteland for grazing. Only a few animals belonged to fine breeds, and the rest were non-descript indifferent bred, and carelessly reared. The main purpose of keeping cattle was to breed the future stock of draught cattle, and the leftover milk after the suckling of the calves was a by-product. The milk yield ranged between 2 to 5 pounds, and the price was about 4–5 annas per 2 pounds. The cattle were priced between Rs 25 to Rs 50 per head (average Rs 30). A buffalo in milch was also priced at a similar range (average Rs 25), despite having better milk yield, longer lactation period, higher price for its milk (compared to cattle), and comparable maintenance cost. One reason could be that he-calves of buffaloes were less wanted and fetched poor prices.

In 1961, all cultivators in the village possessed at least one cow and one buffalo for their domestic use. Haswell (1961, p. 31) notes that “the number of beasts per family in 1961 was 4.88 and cattle per head of population was 0.585, compared with 0.663 in 1936 and 0.439 in 1916.” Cultivators were reported to be in extreme difficulty as they could not procure sufficient feed for the cattle.

The increase in the population of milch animals, sheep goats, and poultry by 1983 is directly related to the ability of these species to provide supplementary income to the peasants (Guhan 1983), who kept them either under ownership or under *varam* (sharing) basis. Under the latter category, richer households provided small ruminants and poultry to the *varam* holders under the agreement that they maintain them and share the output with the owner on a 50:50 basis. Guhan (1983) noted that most of the draught animals in Palakurichi were owned by large landlords. The distribution of milch animals was less skewed.

The prevalence of several livestock diseases and death due to them are noted

by Slater, ed. (1918), Tirumalai (1940), Haswell (1961), and Guhan (1983), as the veterinary infrastructure in the village was not well developed.

FEATURES OF LIVESTOCK OWNERSHIP, 2019

The population of livestock in the two villages, as per the survey of 2019, is shown in Table 8.2. It is clear that the number of cattle in Palakurichi is less than that reported in the study of 1983. In terms of absolute figures, goats and chickens predominate among different types of livestock.

It is interesting that over half of all households in both the villages owned one or other type of livestock (55 per cent in Palakurichi and 54 per cent in Venmani) (Table 8.3). Among the socio-economic classes, the proportion of livestock-owning households (LHH) is highest among peasants; the proportion of LHH increases as we go from poor peasants to rich peasants. The

Table 8.2 Population of livestock in Palakurichi and Venmani, 2019 in number

Livestock	Palakurichi	Venmani
Cows/bullocks	126	241
Goats	703	599
Poultry (chicken)	291	661

Source: FAS survey data.

Table 8.3 Proportion of livestock-holding households across socio-economic classes, Palakurichi and Venmani, 2019 in number and per cent

Socio-economic class	Livestock-holding households (LHH)		Share of LHH in total households (%)	
	Palakurichi	Venmani	Palakurichi	Venmani
Landlords and big capitalist farmers	3	1	38	33
Rich peasants	6	9	75	90
Middle peasants	19	29	73	76
Poor peasants	73	58	56	74
Manual wage workers	79	71	57	44
Persons living on pensions, small rents, and remittances	12	22	32	34
Salaried persons	12	19	52	66
Self-employed in business activity	11	16	58	52
All	215	225	55	54

Source: FAS survey data.

proportion of livestock-holding households is the lowest among landlords and big capitalist farmers and those living on pensions, small rents and remittances.

However, there is a departure from the livestock-holding pattern observed historically in that, households from classes other than the peasantry also own livestock. About 70 per cent of rich peasants in Palakurichi and 90 per cent in Venmani owned livestock. At the same time, 52 per cent of salaried households in Palakurichi and 66 per cent in Venmani also owned livestock. Cultivators traditionally owned cattle for agricultural operations, but with the emergence of mechanisation, the ownership of draught animals has fallen substantially. Indeed, even households without any operational holdings possessed livestock (52 per cent in Palakurichi and 42 per cent in Venmani). They engaged in stall-feeding of livestock.

There are variations in livestock ownership across caste groups. Ownership of livestock is disproportionately lower among Dalit households as compared to non-Dalits. About 50 per cent of Dalit households in Palakurichi and Venmani owned livestock; the proportion was 60 to 66 per cent for households from the Backward Classes.

To sum up, while there is inequality in the ownership of livestock across caste and class, reflecting inequality in ownership of agricultural land, the distribution of livestock among livestock holding households is more equal than the distribution of operational holdings among them (based on estimates of the Gini coefficient).

Composition of Livestock

The major livestock owned are cows, bullocks, goats, and backyard poultry. In the two villages, cattle are no longer the most important type of livestock. Poultry birds are possessed mainly for eggs for home consumption. Other livestock such as pigeon, turkey, rabbit, and sheep are also owned, but to a small extent (16 pigeons, three turkeys, and two rabbits in Palakurichi; and three sheep and 10 pigeons in Venmani). There were no buffaloes in the villages.

The distribution of various livestock across socio-economic classes shows that the livestock population is concentrated among poor and middle peasants, and manual wage workers (Table 8.4). These three groups together accounted for 65 per cent of cattle, 70 per cent of goats, and 74 per cent of poultry birds in Palakurichi. The respective figures were 78 per cent, 75 per cent, and 62 per cent in Venmani. Thus, livestock is largely owned by the peasantry and manual wage workers together, even though ownership is spread across all socio-economic classes.

Although cattle have been given higher priority in the livestock sector in

Table 8.4 *Distribution of livestock species across socio-economic classes, Palakurichi and Venmani, 2019 in number*

Socio-economic class	Palakurichi			Venmani		
	Cow/ Bullock	Goat	Chicken	Cow/ Bullock	Goat	Chicken
Landlords and big capitalist farmers	9	23	3	2		
Rich peasants	14	69	6	23	12	60
Middle peasants	28	35	42	70	106	100
Poor peasants	29	214	124	69	150	123
Manual wage workers	25	243	49	41	209	188
Persons living on pensions, small rents, and remittances	9	42	5	15	50	38
Salaried persons	4	45	60	16	44	69
Self-employed in business activity	8	32	2	5	28	83
All households	126	703	291	241	599	661

Source: FAS survey data.

Table 8.5 *Proportion of households owning livestock and mean size of livestock holdings, Palakurichi and Venmani, 2019 in per cent and number*

Village	Livestock-holding households (no.)	Proportion of households owning			Mean size of holding (no.)		
		Cattle	Goat	Poultry	Cattle	Goat	Poultry
Palakurichi	215	25	82	21	2	4	7
Venmani	225	47	65	44	2	4	7

Source: FAS survey data.

India, of late other livestock, particularly small ruminants (goat and sheep), have gained attention. The goat turns out to be the most widely owned livestock – owned by 82 per cent of households in Palakurichi and 65 per cent of households in Venmani (Table 8.5). In both Palakurichi and Venmani, the proportion of households with goats was higher than the proportion of households with cattle, in all socio-economic classes (except for landlords and rich peasants). In Palakurichi, the proportion of goat-owning households was more than 90 per cent among manual wage workers and persons living on pensions and remittances; between 80 and 90 per cent among self-employed and poor peasants; and 60 and 80 per cent among salaried persons and rich peasants. It was 33 per cent among capitalist farmers.

At the same time, the average size of holding was higher among rich

peasants and capitalist farmers (17–23 heads per household) than households in other classes (3–5 heads per household). While only a small proportion of households that were neither peasants nor wage workers owned goats, the average holding size of goats with them was generally higher. Venmani shows a similar pattern of ownership of animals.

Thus, the nature of livestock holding depends on position in the class structure.

Size of Livestock Holding

The mean holding size of cattle, goats, and poultry was two, four, and seven, respectively, in Palakurichi and Venmani. Using standard FAO methodology, I have converted holdings of livestock into standard livestock units (Table 8.6). Using standard units, the average size of livestock holdings is higher among landlords and rich peasants than others in Palakurichi. Landlords and rich peasants had holdings that were four times higher than those held by manual workers. In Venmani, livestock holdings were higher for rich and middle peasants than others. Rich and middle peasants had holdings that were two to three times larger than those of manual workers.

Though livestock is an income-earning asset, the relatively prosperous socio-economic classes are in a better position to invest in them. Income from livestock accrues after a significant time gap: three to five years for a cattle calf

Table 8.6 Mean and median size of livestock holding, by socio-economic class, Palakurichi and Venmani, 2019 in standard livestock units

Socio-economic class	Palakurichi		Venmani	
	Mean	Median	Mean	Median
Landlords and big capitalist farmers	2.3	2.3	1.0	1.0
Rich peasants	2.3	1.7	1.5	1.4
Middle peasants	0.9	0.9	1.6	1.5
Poor peasants	0.5	0.4	0.9	0.8
Manual wage workers	0.5	0.3	0.6	0.5
Persons living on pensions, small rents, and remittances	0.7	0.5	0.6	0.4
Salaried persons	0.6	0.4	0.7	0.2
Self-employed in business activity	0.7	0.4	0.4	0.3
All	0.6	0.4	0.8	0.5

Source: FAS survey data.

to reach a milk-producing age, and for goats, it would be about one to one-and-a-half years for first calving. Farmers usually sell the male goats keeping the female as stocks for the next crop. Therefore, it would take one and half to two years to realise economic returns from the sale of goat kids. Another significant factor is the regularity of income: while in-milch cattle yield milk regularly, the income from goats is a one-time event (at the time of sale). There is also irregularity in the flow of incomes while households incur high initial expenditure to build up a stock of animals and have to spend regularly on maintenance expenditure. These two factors can affect the investment in livestock by households from poorer socio-economic classes.

Asset Value

We turn now to the share of livestock in agricultural assets. With a mean asset value of about Rs 16,300 in Palakurichi and Rs 20,170 in Venmani, livestock accounted for about 5 to 6 per cent of the value of total agricultural assets and 2 per cent of the value of all assets (Table 8.7). The value of livestock assets varied widely across households – from Rs 12,100 to Rs 82,750 in Palakurichi

Table 8.7 *Livestock assets as a ratio of agricultural assets and total assets, Palakurichi and Venmani, 2019 in rupees and per cent*

Socio-economic class	Palakurichi			Venmani		
	Value of livestock (Rs)	Livestock/ agricultural assets (%)	Livestock/ all assets (%)	Livestock (Rs)	Livestock/ agricultural assets (%)	Livestock/ all assets (%)
Landlords and big capitalist farmers	82,733	1	1	29,000	1	0
Rich peasants	51,500	2	1	39,950	1	1
Middle peasants	22,634	4	1	39,781	4	2
Poor peasants	12,662	7	3	20,507	13	4
Manual wage workers (skilled+unskilled)	12,109	35	3	14,857	39	5
Persons living on pensions, rent, remittances	18,733	22	3	13,705	12	2
Salaried persons	15,058	13	2	17,779	11	2
Self-employed in business activity	21,036	20	2	7,038	12	2
All	16,303	5	2	20,170	6	2

Source: FAS survey data.

and from Rs 7,000 to Rs 40,000 in Venmani. The value of livestock assets was highest for capitalist and landlord farmers of Palakurichi, mainly because of the large holding of goats by some farmers. The value of livestock assets was next highest for rich peasants, followed by middle peasants, and lowest for manual wage workers and poor peasants, in both villages.

The share of livestock in total agricultural assets was the highest for manual wage workers, mainly because of the lack of other means of production. The share of livestock assets in total agricultural assets was lower as we moved from manual wage workers to poor peasants, middle peasants, rich peasants, and landlords in Palakurichi and Venmani. It was the highest for manual wage workers (35 per cent and 39 per cent in Palakurichi and Venmani, respectively) and the lowest for rich peasants and landlords (less than 1 per cent).

Given their overall asset poverty (see chapter 9), livestock was an important component of assets for manual wage workers and poor peasants.

EARNINGS FROM LIVESTOCK

The inability of the agricultural sector – that is of crop and livestock farming – to generate a decent income can be gauged from an analysis of level and sources of income (Tables 8.8 and 8.9).

The net income of livestock-holding households (LHH) was estimated by netting out the expenses from agricultural activities including crops and livestock. The mean income of an LHH was Rs 1.4 lakh and Rs 1.6 lakh in Palakurichi and Venmani, respectively (Table 8.8). The median values indicate that about 50 per cent of LHH had income less than Rs 1.06 lakhs in Palakurichi and Rs 1.03 lakhs in Venmani.

On a per-capita basis, the annual net income of a livestock-holding household was about Rs 40,000 in Palakurichi and Rs 44,000 in Venmani. Per

Table 8.8 Mean and median household income of livestock-holding households by source of income, Palakurichi and Venmani, 2019 in rupees

Village		Crop	Livestock	Other sources	Total household income
Palakurichi	Mean	7,081	6,565	1,25,855	1,39,501
	Median	179	3,600	99,830	1,05,741
Venmani	Mean	294	6,079	1,52,038	1,58,412
	Median	0	4,350	99,000	1,03,117

Source: FAS survey data.

Table 8.9 Mean per capita income by source of income, Palakurichi and Venmani in rupees and per cent

Village		Crop	Livestock	Other sources	All
Palakurichi	Rs	1,988	2,278	36,046	40,312
	%	5	6	89	100
Venmani	Rs	92	1,960	42,187	44,240
	%	0	4	95	100

Source: FAS survey data.

capita income from crops was very low in the survey year due to severe damage from Cyclone Gaja. The mean annual per capita income from livestock was Rs 2,278 in Palakurichi and Rs 1,960 in Venmani.

The mean annual income from livestock was about Rs 6,565 in Palakurichi, and Rs 6,079 in Venmani (Appendix Table 8.1) but there were sizeable variations across classes. In Palakurichi, capitalist farmers and big landlords received about Rs 40,000 a year from livestock. At the same time, the net income from livestock was Rs 4,000–5,000 for manual workers and poor peasants (that is, one-tenth). The differences in income from livestock across classes were smaller in Venmani.

In terms of composition of income, even among LHH, about 90 per cent of income in Palakurichi was from “other sources” while 5 per cent came from crops, and another 5 per cent from livestock. In Venmani, 96 per cent of income was from “other sources”, while livestock contributed 4 per cent. Income from livestock accounted for 21 per cent of net income of rich peasants in Palakurichi (and 4 to 5 per cent for poor and middle peasants). In Venmani, livestock income was 7 per cent of total income for poor and middle peasants and 3 per cent for rich peasants (Appendix Table 8.1).

Livestock and Farm Income Variability

A significant feature of income generation in the two villages is that while crop production generated negative incomes for many households, livestock income was inevitably positive. For example, in Venmani, on average, a poor peasant household made losses of Rs 1,532 from crop production in the survey year and received positive net incomes of Rs 5,540 from livestock rearing. One can argue that it is the contribution from livestock that prevented many households from falling into the realm of negative incomes. Although crop failure has become very frequent in the region, livestock could withstand those

Table 8.10 Coefficient of variation of net household income, by source of income, among LHH, Palakurichi and Venmani, 2019

Village	Crop	Livestock	Non-farm	Household income
Palakurichi	1,983	193	85	128
Venmani	-3,926	135	122	121

Source: FAS survey data.

Table 8.11 Adjusted agricultural income and share of livestock, for livestock-holding cultivators, Palakurichi and Venmani, 2019 in rupees and per cent

Socio-economic class	Palakurichi		Venmani	
	Total agricultural income (Rs)	Share of livestock in income (%)	Total agricultural income (Rs)	Share of livestock in income (%)
Landlords and big capitalist farmers	4,90,345	9	1,93,874	10
Rich peasants	31,378	100	11,009	100
Middle peasants	10,289	77	16,273	62
Poor peasants	7,053	70	5,540	100

Source: FAS survey data.

vulnerabilities and provide some income to households. In that sense, livestock contributes to reducing the variability of farm income.

Note also that the coefficient of variation (CV) for crop incomes was much higher than that for livestock (Table 8.10).

In 2018, the villages encountered a major cyclone, Gaja, resulting in severe crop loss and negative crop incomes (chapters 11 and 16). We recalculated all incomes by assuming negative crop incomes as zero incomes and then estimated adjusted agricultural income from the crop and livestock sectors (Table 8.11).

Adjusted farm income was low for all cultivator classes, except for landlords and big capitalist farmers. What is interesting, however, is that income from livestock turned out to be the largest contributor to farm income for all classes of peasants. The share of livestock in total income ranged from 62 to 100 per cent for the peasant classes in Venmani, and 70 to 100 per cent in Palakurichi.

Income from livestock was distributed more equitably across households than crop income. While the Gini coefficient for overall household income was 0.47 for Palakurichi and 0.51 for Venmani, the Gini coefficient for crop incomes was highest, followed by livestock and other sources in that order.

Table 8.12 Gini coefficient by source of income, for livestock-holding households, Palakurichi and Venmani, 2019

Village	Income from crop production	Income from animal resources	Income from other sources	Total income
Palakurichi	0.93	0.67	0.42	0.47
Venmani	0.88	0.59	0.52	0.51

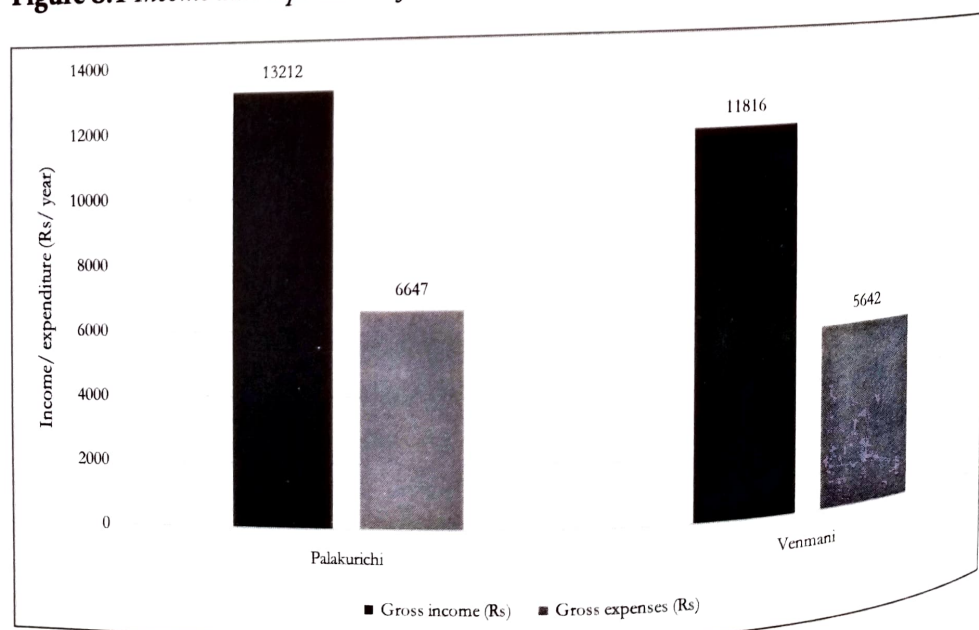
Source: FAS survey data.

In both villages, income from goats was the biggest component of livestock income, to the extent of 55 per cent in Palakurichi and 48 per cent in Venmani (Appendix Table 8.2). Cattle contributed 39 per cent of livestock income in both villages. Goats generated higher income than cattle and poultry for households in most socio-economic classes.

An important finding from the economic analysis of livestock rearing is that it provides a good return over expenditure, which makes it a financially worthwhile enterprise (Figure 8.1). The share of expenses to gross income from livestock was 50 per cent in Palakurichi and 48 per cent in Venmani. This explains the economic viability of livestock in the villages and its role as a buffer for smoothening income fluctuations.

Looking at each type of livestock, the return over gross expenditure is highest

Figure 8.1 Income and expenditure from livestock, Palakurichi and Venmani, 2019 in rupees



Source: FAS survey data.

for goats in both villages. The net income as a share of gross expenditure for goats was to the tune of about 200–300 per cent and that for poultry was to the tune of 100–220 per cent in both the villages as compared to a lower ratio for cattle (31 per cent in Palakurichi and 47 per cent Venmani). Expenditure on goat farming is relatively low, and return per rupee spent is relatively high, making goat farming a relatively good economic proposition.

CONSTRAINTS TO HIGHER INCOME

In the case of milk, 73 per cent of milk produced in Palakurichi (about 40,000 litres annually) is marketed whereas it was about 45 per cent in Venmani, with an annual production of 34,000 litres.¹ There is no organised milk collection, and the major milk marketing channel is direct sale to nearby households and shops. Price realised for milk varied across the villages and across classes. Farmers in Venmani, in general, realised a lower price compared to farmers of Palakurichi. The farmers of higher socio-economic classes realised better prices.

Notwithstanding quality differences in milk, one major reason for differences in price realisation is the relative underdevelopment of milk marketing facilities in the villages. Organised milk marketing through milk cooperatives helps to realise prices based on milk quality. The experience of dairy development in India points to the need to develop marketing facilities and supply inputs like feed, fodder, and veterinary facilities to raise production and returns.

Egg production is almost completely used for own consumption.

Turning to goats, the major determinant of the price of goats is their body weight and sex. Male goats with higher body weight fetch a better price. On average, the farmers sold four goats a year and realised a gross income ranging between Rs 10,500 to Rs 11,000. The average price of a goat was Rs 2,700 in Palakurichi and Rs 2,600 in Venmani. In Palakurichi, the price received by landlords and big capitalist farmers and rich peasants was higher than that realised by other socio-economic classes. Such clear differences were not observed in Venmani, and the overall price realised was in general lower for most of the socio-economic classes as compared to Palakurichi. The need to develop better marketing facilities is reflected in the case of the marketing of goats as well (Appendix Table 8.4).

¹ The low yield could be partly due to weather conditions, as milk yield is lower in high-temperature conditions.

Table 8.13 Production and sale of milk, egg, and cow dung, Palakurichi and Venmani, 2019

Village	Production			Sale/Production		
	Milk (litres)	Cow dung (trolley)	Egg (pieces)	Milk (%)	Cow dung (%)	Egg (%)
Palakurichi	40,458	153	3,811	73	2	
Venmani	34,003	226	7,411	45	7	5
						44

Source: FAS survey data.

Table 8.14 Participation in milk markets, marketed surplus, and price of milk, across socio-economic classes, Palakurichi and Venmani, 2019 in per cent and rupees

Socio-economic class	Share of milk selling households in producing households (%)		Extent of sale/production (%)		Average milk price (Rs/litre)	
	Palakurichi	Venmani	Palakurichi	Venmani	Palakurichi	Venmani
Landlords and big capitalist farmers	100	0	96	0	25.0	24.0
Rich peasants	25	33	55	44	26.3	25.5
Middle peasants	88	29	67	44	25.9	23.9
Poor peasants	90	39	77	48	25.2	24.6
Manual wage workers (skilled+unskilled)	100	44	75	41	25.9	23.4
Persons living on pensions, small rents, and remittances	67	25	67	86	25.0	23.6
Salaried persons	100	20	88	5	30.0	26.2
Self-employed in business activity	100	50	82	56	30.7	24.5
Overall	85	34	73	45	26.1	24.4

Source: FAS survey data.

FISHERIES DEVELOPMENT

Even though the villages belong to the coastal district of Nagapattinam, the fisheries sector is not well developed. Gradually, inland fish culture is coming up in the village, utilising ponds and other water bodies. There were a few farmers who raised fish, by using fingerlings procured from the offices of the Fisheries Department of the Government of Tamil Nadu. Fish feed is procured from private shops. On maturity, the fish are sold on the basis of forward

contracts. The contractors undertake the operations of harvest and sale. Using existing water bodies, expansion of fisheries can generate additional income.

CONCLUDING REMARKS

Livestock is an important component of the farming system in Palakurichi and Venmani today. It is undertaken as a supplementary income-generating activity and provides a buffer against fluctuations in crop income. The major types of livestock owned by households are cattle, goats, and poultry chicken.

The mean livestock-holding size is small and can be managed using household labour supply. The cattle and goat enterprises are carried out in an extensive farming system, making use of fodder available from public lands, pastures, and harvested crop fields. Occasionally a cut-and-carry system of fodder is also practiced. Backyard poultry is undertaken to meet household nutritional requirements. Fisheries has not developed into a major economic sector in the villages. However, the spread of aquaculture in nearby villages in the Nagapattinam is getting reflected in the villages too.

Milk sales were 73 and 45 per cent of production in Palakurichi and Venmani, respectively. Cow dung was used for crop farming and eggs were used for household consumption. Price realised for milk and goats varied among different socio-economic classes. The prices realised depend on the institutional mechanism available for marketing and the bargaining power of the households. Compared to a poor peasant, the prices received for goats were higher by 25 per cent for rich peasant households and 57 per cent for landlord households.

The infrastructure for livestock is underdeveloped – particularly, veterinary care and milk-marketing facilities. We argue that the relative underdevelopment of the villages in terms of marketing facilities, particularly concerning milk and live goats, has adversely affected the income generated. With adequate institutional arrangements for marketing and delivery of livestock services and feed, livestock has the potential to emerge as a major source of income for poor households in this region.

APPENDIX

Appendix Table 8.1 Mean net annual income by source and socio-economic class, for livestock holding households, Palakurichi and Venmani, 2019 in rupees

Class	Palakurichi				Venmani			
	Crop	Livestock	Other source	Total	Crop	Livestock	Other source	Total
Landlords and big capitalist farmers	447953	42392	392112	882457	175444	18430	750000	943874
Rich peasants	-38370	31378	157223	150230	-7354	11009	313087	316742
Middle peasants	2341	7948	143583	153872	6223	10050	120726	136999
Poor peasants	2099	4954	107434	114487	-1532	5540	79513	83521
Manual wage workers (skilled+ unskilled)	-71	4042	117352	121323	44	5488	105473	111005
Persons living on pensions, small rents, and remittances	2720	8388	94227	105336	-2788	4351	157792	159355
Salaried persons	14281	10240	206233	230754	-4465	5471	420373	421379
Self-employed in business activity	1159	3679	135634	140472	528	3014	223807	227349
All	7081	6565	125855	139501	294	6079	152038	158412

Source: FAS survey data.

Appendix Table 8.2 *Share of income of various livestock species, by socio-economic class, Palakurichi and Venmani, 2019 in per cent*

Socio-economic class	Palakurichi				Venmani			
	Cattle	Goat	Chicken	Total	Cow/ Bullock	Goat	Chicken	Total
Landlords and big capitalist farmers	27	71	2	100	100	0	0	100
Rich peasants	35	63	2	100	76	2	21	100
Middle peasants	83	10	7	100	47	43	9	100
Poor peasants	36	53	11	100	43	47	10	100
Manual wage worker (skilled+unskilled)	18	78	4	100	28	60	12	100
Persons living on pensions, small rents, and remittances	61	38	1	100	23	65	12	100
Salaried persons	40	50	10	100	32	51	18	100
Self-employed in business activity	54	45	1	100	-1	68	33	100
All	39	55	6	100	39	48	13	100

Source: FAS survey data.

Appendix Table 8.3 *Expenditure pattern in livestock farming for livestock-holding households, Palakurichi and Venmani, 2019 in rupees and per cent*

	Species	Palakurichi	Venmani
Net income from livestock	Cattle	2,589	2,386
	Goat	3,582	2,926
	Chicken	394	767
Net income from livestock as a share of gross expenditure	Cattle	31	47
	Goat	208	298
	Chicken	102	220

Source: FAS survey data.

Appendix Table 8.4 *Average sale of goats during the year, by socio-economic class, Palakurichi and Venmani, 2019 in number and rupees*

Socio-economic class	Palakurichi		Venmani	
	Average goats sold (no.)	Average price per unit (Rs)	Average goats sold (no.)	Average price per unit (Rs)
Landlords and big capitalist farmers	23	4,200	—	—
Rich peasants	17	3,361	4	2,250
Middle peasants	3	2,792	6	2,739
Poor peasants	4	2,680	4	2,432
Manual wage workers	3	2,645	4	2,694
Persons living on pensions, small rents, and remittances	4	2,750	4	2,826
Salaried persons	5	2,931	4	2,598
Self-employed in business activity	4	2,476	4	2,429
Overall	4	2,706	4	2,597

Source: FAS survey data.