

other extreme, and thus bring about results not only contrary to our expectations but also highly injurious to tree growth and soil conservation.

There is no doubt that with the progress of research, the orange cultural practices at Kodur or elsewhere are bound to undergo rapid changes. During the past five years alone as the result of the work done at the Fruit Research Station, Kodur, a number of changes is evident in some of the plantations. The popularity of budded plants has taken such a strong hold among the public that new seedling plantations appear to be very few and far between. This shows conclusively that fruit-growers as a class are generally very responsive to scientific advice and guidance, perhaps in a much better degree than the general class of agriculturists. In the present paper it has been possible to refer to only a few of the more important items on which improvements are necessary and possible.

The Artisan's Share in Agricultural Production.

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Introduction. The self-sufficiency of Indian villages has, in fact, disappeared, and it exists now only in the vision of the future. Although the old harmony is absent and there is no well-defined functioning of the various social groups for the welfare of the entire village, the inter-dependence of classes is readily apparent even at the present time. In no other occupation is such mutual dependence so frequently felt as in the agricultural pursuits which still dominate life in the country side. The farmers cultivate the land with cattle and human labour while they are continually helped by many others like carpenters, smiths and basket-makers who supply ploughs, spades, baskets and similar articles of deadstock which are essential in farming. These artisans function mainly as suppliers of agricultural implements and their services are constantly needed in agricultural production.

For a general appreciation of the place of implements in the agricultural economy, it is necessary to know the organisation and set-up of the farm. An analysis has to be made of the capital investment on holdings under such items as land, livestock, building and implements and see how much of each is used up in production. It will enable one to obtain a quantitative estimate of the different items which are indispensable in themselves, but are required in varying proportions. And if information is gathered as regards the individual items and the particular social groups responsible for the same, it will be helpful in apportioning the share of each in agriculture.

Tract surveyed. A survey was made in 1939—40 of 54 agricultural holdings in the Palghat taluk. Paddy is the main crop of the locality and its cultivation is the mainstay of the people. This one taluk accounts for nearly a fourth of the district acreage under rice cultivation, and had

207,445 acres under the crop in 1938—39, which represents 71·2 per cent. of the annual cultivated area.

Palghat is one of the ten taluks comprising the Malabar district, and is situated at the southernmost extremity bordering on the tamil country. Through the 'Palghat gap', the taluk constitutes the highway of communications between the rest of the district and the other parts of the Presidency. Possibly, too, geographical position partly explains the presence only in this taluk of *Gramam* and *Tara* which are so conspicuous in other South Indian villages but are totally absent in the other taluks of Malabar.

For convenience of revenue collection, Palghat taluk has been divided into six revenue *firkas*, each *firka* being composed of nearly twenty villages known as *amsoms* in the tract. The survey was systematically conducted in all the revenue *firkas* by selecting a few typical villages in each *firka*. The cultivators were chosen at random from the villages to represent the big, medium and small sizes of agricultural holdings. The total figures of all the holdings studied in each revenue *firka* have been used to calculate the average for the whole taluk.

The organisation of the holdings studied has been presented *firka*-wise in Table I.

TABLE I

Revenue <i>Firka</i> .	No. of holdings studied.	Total area cropped on the holdings. (Acres)	Total capital investment on the holdings. (Rs.)	Capital investment per acre of cropped area.* (Rs.)	Percentage capital investment on			
					Land.	Live-stock.	Buildings.	Implements.
1. Elapulli.	10	272·4	12142·5	44·6	69	17	10	4
2. Palghat town.	9	292·2	5791·8	19·8	48	27	15	10
3. Coyalmanna.	9	151·2	3263·5	21·6	26	33	34	7
4. Alathur.	9	312·0	5345·5	17·1	30	43	21	6
5. Kollengode.	8	345·0	5615·8	16·3	32	40	18	10
6. Parli.	9	183·6	3853·0	21·0	37	48	8	7
Average for the taluk.	9	259·4	6002·0	23·2	40	35	18	7

Share of Implements in Capital Investment. Having obtained from Table I a general picture of the equipment on holdings and the position of agricultural implements on it, let us examine the details regarding the different articles of dead-stock, and the classes of people who are directly engaged in its manufacture with a view to apportioning their share. Agricultural implements are very simple and they are made and mended by the village artisans. The 'country' ploughs, carts, levelling-boards and spades constitute the chief items of deadstock, and the carpenters and blacksmiths are jointly responsible for their manufacture. The basket-makers are a separate class who work with bamboos, reeds and palm-leaves, and make

* Value of owned land not included.

receptacles for farm use. The ploughs and spades serve as important tools in tillage, while the bullock-carts and baskets are often found necessary for the transfer of manures or produce. The expenditure on these village crafts are expressed as percentages in the accompanying Table II.

TABLE II

Revenue <i>firka</i> .	Total capital investment on implements on the hold- ings studied. (Rs.)	Total cropped area on the holdings studied. (Acres).	Capital in- vestment on implements per acre of cropped area. (Rs.)	Percentage capital investment on implements.				
				Ploughs.	Levelling- boards.	Country carts.	Spades.	Basket work.
1	474.5	272.4	1.7	24	14	40	12	10
2	571.8	292.2	0.8	20	10	48	9	13
3	212.5	151.2	1.4	27	17	17	19	20
4	340.5	312.0	1.1	35	11	23	13	18
5	545.8	345.0	1.6	19	12	47	10	12
6	273.0	183.6	1.5	28	13	13	19	27
Average for the taluk.	403.0	259.4	1.7	25	13	31	14	17

The cost of materials, such as iron and wood, comes to nearly three-fourths of the price of the implements, while the remaining one-fourth forms the making charges which are shared among the artisans. It is distributed among the carpenters, the blacksmiths and the basket-makers, nearly a sixth of the wages going to the basket-makers while the carpenters and smiths share between them the rest. This is evident in Table III.

TABLE III

Revenue <i>firka</i> .	Total cropped area in the holdings studied. (Acres.)	Total invest- ment on im- plements on the holdings studied. (Rs.)	Total share as wages (25% of the capital investment on implements). (Rs.)	Share as wages per acre of cropped area. (Rs.)	Share of different classes as percentage.	
					Carpenters and black smiths.	Basket- makers.
1.	272.4	474.5	118.6	0.4	90	10
2.	292.2	571.8	142.9	0.2	87	13
3.	151.2	212.5	53.1	0.4	80	20
4.	312.0	340.5	85.1	0.3	82	18
5.	345.0	545.8	136.4	0.4	88	12
6.	183.6	273.0	68.3	0.4	73	27
Average for the taluk.	259.4	403.0	100.8	0.4	83	17

It will be seen from Table I that in Palghat taluk Rs. 23.15 are needed as total average capital investment per acre of paddy cultivated, and also that 7 per cent. of this initial outlay or Rs. 1.7 is expended on agricultural implements. It has also been shown in Tables II and III that out of Rs. 1.7 spent per acre as capital on implements, 25 per cent. or Rs. 0.4 gets distributed as wages among the artisan class, the proportion of the share between

the carpenters and the smiths on the one hand and the basket-makers on the other, being as 4·9:1. With these average figures, a quantitative estimate of the share of artisans, as measured by the wages received, has been made for the whole taluk.

TABLE IV

Area sown under rice in Palghat taluk. (Acres.)	Capital investment on implements per acre of cropped area. Rs.	Total capital investment on implements in the taluk. Rs.	Artisan's share as wages per acre of cropped area. Rs.	Total share of the artisans in the taluk. Rs.
207,445	1·7	344,026·8	0·4	860,06·7

Share in Depreciation Charges. The economic life of the implements on the farm is so short that almost all through the year every farmer has to provide for some repair or replacement. Few articles survive their seasonal use and hence the services of the artisans are often found necessary. Their services are largely dependent upon the probable life of different implements, which may be estimated as under :

TABLE V

Implements.	Probable life (years).	Depreciation per cent.
Country carts	7 to 8	12·5
Levelling boards	3 to 4	25·0
Spades	1½ to 2	50·0
Ploughs	1 year	75·0
Basket-work	1 year	100·0

Based on the probable life of each implement, the depreciation charges have been worked out for the holdings in every *firka* and presented below :

TABLE VI

Revenue <i>firka</i> .	Capital investment on implements (Rs.)	Depreciation charges (Rs.)	Depreciation per cent.
1.	474·5	212·2	44·6
2.	571·8	225·0	39·3
3.	212·5	118·6	55·6
4.	340·5	190·3	55·6
5.	545·8	215·3	39·5
6.	273·0	169·3	62·1
Average for the taluk.	403·0	188·4	46·8

The rather high rate of depreciation denotes the constant use of village crafts and the consequent employment of the artisans. The amount distributed as wages from the depreciation charges represents 25 per cent. which is the same as in the case of the initial outlay. The average depreciation per acre of cropped area works out to Rs. 0·7, and one-fourth of the amount gets disbursed as wages to the artisans. For the whole taluk with

an extent of 207,445 acres under paddy, the total share of the artisan class in the depreciation charges amounts to Rs. 150,605.

In working out the proportion of the shares in the disbursement of the depreciation charges, a deviation has been observed in that the share of the basket-maker has nearly doubled. This upward trend in favour of the basket-maker is no doubt due to the maximum depreciation in that particular item of deadstock. The shares received between the two different classes have been contrasted below:

TABLE VII

Revenue - <i>Firka</i> .	Percentage share of implements in capital investment.		Percentage share of implements in depreciation charges.	
	Carpenters and blacksmiths.	Basket- makers.	Basket- makers.	Carpenters and blacksmiths.
1.	90	10	23	77
2.	87	13	32	68
3.	80	20	35	65
4.	82	18	32	68
5.	88	12	32	68
6.	73	27	43	57
Average for the taluk.	83	17	33	67

Conclusion. Valued at the market rate, i. e., Rs. 35 per cartload of 70 big measures, locally termed *para* and each *para* weighing about 16—18 lb., 1556·4 acres of cropped area in the holdings studied bring a gross return of Rs. 61,295·5 or Rs. 39·38 per acre. For cultivating one acre of paddy the average capital expenditure on farm implements is Rs. 1·7, while the total capital investment for the same is Rs. 23·2. The depreciation charges are rather high and works out, 46·76 per cent. Out of both the capital expenditure and the depreciation charges, 25 per cent. goes as wages to the artisans. Between them, the carpenters and the smiths carry the lion's share of the wages, while basket-makers get by far less, the proportion being respectively 4·9:1 in capital expenditure and 2:1 in the depreciation charges. The marked increase in the basketmaker's share in the depreciation charges is explained by the high rapid destruction of his item of deadstock.

An attempt has been made in the fore-going to determine how much the artisans get out of agriculture. But it is equally necessary to appreciate what agriculture owes to the artisans. Different classes serve differently and their services are not properly represented by arithmetic. Percentages and proportions convey little when they are used in comparing social values. What is more important is a proper recognition by the people that in agriculture, as in other walks of life, it is the mutual appreciation between parts that really builds up the harmony of the whole.