

Trends of Real Income in Tiruchirapalli and the upper Kaveri
Delta, 1819-1980: A Footnote in Honour of Dharma Kumar

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Introduction

"The fortunes of [agricultural labourers]" observed Dharma Kumar in the opening pages of *Land and Caste in South India*, "are a good index of changes in the entire agrarian economy; movements in the numbers of agricultural labourers and in their wages reflect the growth of population, the extension of cultivation, the rate of industrialization, and the effects of integration in the world economy".¹ This paper seeks to trace the movement in wages in the western portion of the Kaveri delta over a period of about 180 years. But since the work not only responds to Dharma's earlier work, but also because the long delay in the appearance of this study in print was also tied up with her fortunes in the mid-1980s and 90s, the paper is also dedicated to her. Let me explain the last remark before turning to the substance of the paper.

The data reported in this paper refer principally to the wet districts of Tiruchirapalli District in Tamilnadu. I collected most of the material in the late 1970s and early 1980s while studying the impact of the first sixty years of colonial rule in Tiruchirapalli.² My first sketch of the chart presented as Figure 1 was made sometime in 1984 and was transferred to computer in 1985. But there was a possibly significant data point which I did not have and which I was keen to include. In *Land and Caste in South India* Dharma referred very briefly to C. Benson's "Report of a Tour in Trichinopoly District".³ In my own searches in the India Office Library in London and the Tamilnadu Archives in Madras I had been unable to locate the report.

So, in 1986 while in New Delhi on sabbatical leave I showed my chart to Dharma and solicited her assistance with Benson. I still have her comments on the back of a copy of the chart: typical of Dharma they were sharp, concise, and thoughtful comments on what the paper required. But Benson would have to wait. Dharma was living then in rented accommodation in south Delhi awaiting the outcome of court procedures that would allow her and Lovraj to move back into their lovely house in Sundarnagar. All her research notes, including those on Benson, were packed away in boxes. So I waited, and put the material in a file drawer. In the late 1990s, when I was again spending time in Delhi, my research interests had moved on and I didn't bring the material on wages with me. And, although the tumour which caused her untimely death was utterly unguessed at then, there never seemed to be an appropriate moment to ask whether it would be possible to locate the notes on Benson. And so—though the paper still lacks

Benson's data—since its theme is so much bound up with Dharma's work and its long gestation with her life, it is dedicated to her memory.

Measuring real wages

Studies of wage trends usually cover relatively limited periods of time. The 'hard data' in Dharma Kumar's study of southern India, for example, cover the quarter century between 1873 and 1900.⁴ Bhalla's study of the impact of the Green Revolution in the Punjab covers only decade and a half, between 1961 and 1977.⁵ Krishnamurthy's study of wages in the Bombay Deccan is noteworthy for covering nearly half a century, between 1874 and 1922.⁶ Ghose has attempted to construct two all-India series for real wages of agricultural workers which cover the span 1891-1911 and 1916-1946.⁷ The reasons most studies look at a relatively short span are entirely sensible: that is usually as long as consistent data series run. Krishnamurthy's methodological responses to the difficulties he encountered studying the Bombay Deccan in the late 19th and early 20th century reflect these problems:

No single source provides information for all the districts on prices and wages for the fifty years between 1872-1922. Therefore three different series have been constructed....⁸

At every turn, one has to work with data whose reliability is open to question. These were aptly summarised by the Director-General of Commercial Intelligence and Statistics in 1907:

The record obtained entirely fails to give reliable indication of the remuneration of the labourers. This result is due to the inherent difficulties of the problem, and the practical impossibility of getting the untrained reporting agency to make necessary allowances for the varying conditions of employment. Payment in kind is commonly practised, either for the entire wage, or as a supplement to cash wages, and the supplements vary according to the season and the nature of the employment. Regularity of employment also varies greatly, and is practically nowhere continuous through the year. The most common expedient for avoiding these, and other difficulties, is to return cash wages for labourers employed in towns or their neighbourhood, which are in no way typical of the rate prevailing throughout the district.⁹

The final remark underscores an important point: there is no necessary connection between a daily wage rate and an annual income. As Panikar noted of Kerala, although real wage rates were higher in Kuttanad in the 1970s than elsewhere in India, this did not mean that incomes were higher; because of acute underemployment, the number of days on which workers could obtain employment was low.¹⁰

In addition to the relevance of the data collected, there are also uncertainties about how wages, paid either in kind or cash, were converted by the officials who collected them, or how they are to be deflated in their turn. As Krishnamurthy notes: "The real wages obtained may not exactly correspond to the actual real wages, since we cannot be certain that wages paid in kind were converted into cash by the data collectors with the same price data with which money wages are converted by us into real wages".¹¹ The result is that what are claimed to be real wage rates—which were in many cases paid in kind anyway—appear to fluctuate wildly from year to year, as do those presented graphically by Dharma Kumar in her chapter on wages.¹²

Finally, the 'micro-level' gains in accuracy inherent in a relatively short series may not throw as much light as we might wish on the 'macro-level' questions of most concern to economic historians. Thus Bhalla's year-by-year

account of real wage rates in the early years of the Green Revolution, which were highly important in the controversial years when the High Yielding Varieties were being introduced, are likely to be less useful now when our concerns are likely to span a broader period.¹³ It is often sobering to place such changes in the context of the *longue dureé*, such as that offered by Radhakamal Mukherjee's heroic estimation of trends in Indian per capita incomes between 1600 and 1938.¹⁴

Direct reports of real wages

The approach I have adopted in this paper—the use of reports of payments in kind—is one that wiser heads have considered and no doubt sensibly rejected as being too unsystematic to be useable.¹⁵ In *Land and Caste in South India* Dharma enumerates the many impediments which face anyone seeking to use these fragmentary and unsystematic observations.

She notes that amongst the obstacles one faces in using these reports is the absence of uniformity either across geographical regions or in the constituents of the payments themselves. Other difficulties are the uncertainties about the season for which the payment was received and possible changes over time in the extent of work for which payment was made. Finally, there is the problem that the wage rates of untouchable workers were lower than those paid to other workers.¹⁶

Although we may readily grant the existence of these problems, most are neither unique to reports of payments in kind, nor any more acute than those inherent in (but largely concealed by) reports of cash rates. At least one of the difficulties, that of uncertainty about what the grains were in which wages were paid, is not relevant for the wet tracts of Tiruchirapalli and the western parts of Thanjavur: wages were invariably paid in paddy.

In addition, another of the obstacles noted by Dharma Kumar is actually, I believe, the source of advantage to the attempt to work directly with accounts of real wages. Dharma paid considerable attention to the differences in wages paid to Untouchables and Backward Castes. "The wage", she noted, "sometimes also depended on the caste of the labourer and indeed even upon that of the employer. Even amongst the attached labourers or serfs those of the lowest castes were paid the lowest wages".¹⁷ Wages for attached Untouchable labourers, which are those that we usually have, thus represent an implicit minimum wage. Finally, we should note that the wages of attached labourers offer a further advantage: they are almost always a yearly wage. They thus assist us to directly estimate income in a manner that only knowing wage rates cannot.

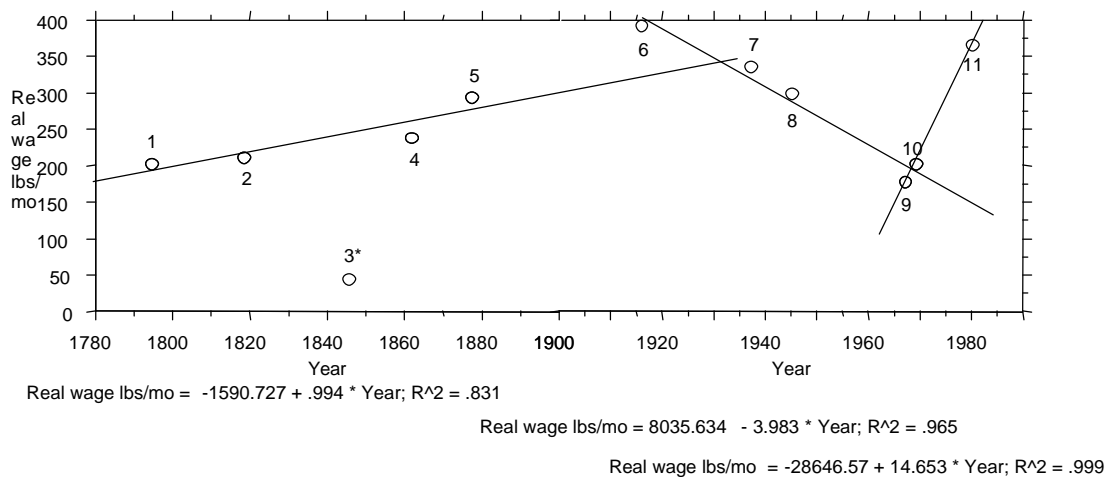
There are other major difficulties which must be faced in working with reports of real wages which Dharma did not mention. The first of these is knowing the standard volume of traditional measures that were being used at the time the observation was made. I will not repeat here what I have published previously and will only note that in Tiruchirapalli, the ordinary measure of grain, the *padi* or "Madras Measure" at one point was officially held to be a volume of 100 sq. inches, was actually 104 sq. inches and was eventually replaced by a measure of 108 sq. inches. The *kalam* went through even more extreme transmutations.¹⁸

Difficulties do not end with the determination of standard volumes and weights. Some observers recorded male and female payments separately, others jointly, still others only male wages. Many observers record only the most significant, daily, payments and say nothing about harvest shares or festival bonuses. More than one observer gives information which appears to be internally inconsistent. More than one devil lurks in the details. Since much hinges on how the value of each data point was arrived at, I have provided the details in the Appendix.

Trend of real incomes

The data consist of 10 observations made between 1819 and 1980.¹ The first five observations come from the 19th century. With the exception of observation 3, that of Elliot which because it is impossibly low has been excluded in computing the regression line, the data show a rising trend of annual income which reach a sharp peak in the middle of WWI. This interpretation is consistent with Dharma Kumar's analysis of five observations (among many others for other districts) made in Tanjore between 1863 and 1892. These show that daily wage rates rose steadily from .8 seers per day to about 2.6 seers in the early 1890s. Kumar concludes cautiously "[it] would appear that there had been some improvement over the latter part of the century in Tanjore, if nowhere else".¹⁹ The findings are inconsistent with the anthropometric data on emigrants from North Arcot presented by Brennan et al.²⁰

Figure 1: The Trend of Real Incomes, Tiruchirapalli and Western Thanjavur, 1819-1980
note



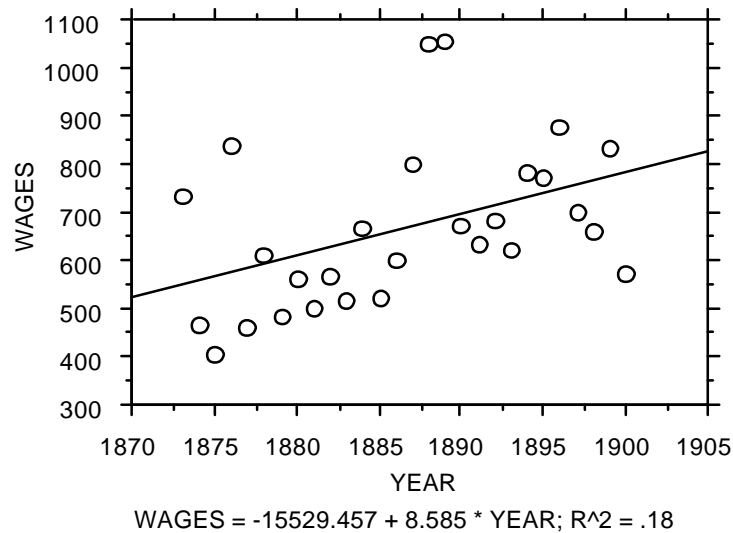
Note: Observation No. 3, that of Elliot, was not included in the calculation of the regression line

The income trends for the 19th century presented in Figure 1 are also very similar to the more systematic data which Kumar presents for Tanjore between 1873 and 1900. Figure 2 plots her data and a regression line for the series. The 'long' 19th century culminates in a peak income in 1916 (though this point was not been

¹ The 11th observation, but in sequence the first, comes from Chingleput in 1795, and has no proper place here. Since however it lies on the regression line, and has virtually no impact on the interpretation, I have chosen to include it.

included when computing the regression for the 19th century). This accords with Heston's observation that "1916 does...seem to be the best year in the first half of the [20th] century".²¹

Figure 2: Annual Wages in Grain of Agricultural Labour, Tanjore 1863-1900 (in seers of common rice)



source: Kumar (1965), pp. 166-7

The second phase which is apparent in Figure 1 covers what one might term the 'hungry half century' for Indian agricultural labour between the 1920s and the 1970s. In this period annual incomes fell precipitately from their peak in World War I. While others such as S.J. Patel have noted the general decline in incomes which occurred during the depression,²² few except Reddy have noted that that incomes in south Indian continued to fall to depths of misery in the 1960s.²³ The causes of the decline must include the initial impact of the Depression, the permanent loss of opportunities to emigrate after Independence and the slow pace of development in the early decades of Independence, especially in areas of rice cultivation.

The third phase, which is the briefest, and necessarily the most speculative, covers the post-Green Revolution years. It appears to indicate a very rapid recovery in income levels to near their former peak in 1916. One can speculate that these increased income levels are the result of intensified demand for labour with double and triple cropping which accompanied the introduction of the High Yielding Varieties as well as increased demand for labour outside agriculture as a consequence of the quickening pace of industrialisation in Tamilnadu.

Conclusion

I began this essay by quoting Dharma Kumar's observation that "the fortunes of [agricultural labourers] are a good index of changes in the entire agrarian economy". Taken as a whole, the picture that emerges from this survey is a dismal one. Over the whole span of nearly 180 years, the real incomes of agricultural labourers in Tiruchirapalli have remained largely static. This conclusion is consistent with the findings by Brennan et al. that the heights and body/mass indices of south Indians remained depressingly constant between the measurements made of Untouchable migrants in the 1890s and those of Dalits in the 1990s.

There was, nevertheless between 1819 and 1916 a century of gradually increasing incomes. We can place this in context by considering the 'De Farcy line'. Colin Clark cites H. De Farcy's "bold generalization that 3 kg./day [•200 lbs/mo] of grain represents the usual remuneration of wage labour in a subsistence economy".²⁴ Referring to Figure 1, we can see that income levels were at approximately this level in riverine taluks of Tiruchirapalli in the early 19th century but rose to almost double that figure by the peak year of 1916. The most striking finding of this study is that, in Tiruchirapalli, real incomes declined steadily between the Depression and the 1960s, falling below the De Farcy line in the 1960s.

The fact that incomes reached their nadir in the 1960s suggests an alternative interpretation of the initial years of the Green Revolution to that which was dominant at the time. In many of those accounts, the upsurge of village-level violence, especially in Thanjavur, was the result of the introduction of the Green Revolution and the High Yielding Varieties. Referring to notorious episodes such as the massacre of forty-four labourers in Venmani village in east Thanjavur in December, 1968, Hari P. Sharma suggested that the emergence of "new conflicts...along class lines" was the result of a capitalist transformation in agriculture.²⁵ "Both the green revolution and the increasingly class-oriented polarization of the Indian peasantry are thus the outcomes of a long, continuous process of major structural and institutional shifts in rural India...".²⁶ Writing of Thanjavur in 1976, Kathleen Gough noted that while rich farmers, mill owners and money lenders had profited from the Green Revolution "the rest of the people have either remained much as they were, or in the case of about 60 percent of them, have been impoverished".²⁷

By the early 1980s however, when I conducted fieldwork in eastern Thanjavur and Tiruchirapalli violent clashes between landlords and agricultural labourers had largely dissipated. One informant in Arupadi village told me:

At the beginning of the year we sit with the labourers and discuss what the [daily] wage rates will be. Since many of them are themselves smallholders, they are aware of what the problems and the costs are, and some compromise is reached.²⁸

Could it be that the violent clashes of the late 1960s in the Kaveri delta are better seen as the culmination of the half century of declining real incomes, rather than the recent intrusion of capitalism into agriculture, as it was once fashionable to argue? And could it be that the Green Revolution, far from intensifying the immiseration of agricultural labourers, provided instead the economic basis for the relatively rapid recovery in incomes which ended the 'hungry half century'? While atrocities against Dalits, such as those in Kodiyangulam in 1995 or Melavalavu in 1997, still occur²⁹, it seems to me likely that the possibilities for agrarian revolution in south India were extinguished, rather than created, by the Green Revolution.

This essay has attempted to trace the incomes of agricultural labourers in Tiruchirapalli over nearly two centuries, based on the fortuitous reports we have of grain payments to attached labourers over that period. With the virtual extinction of the attached agricultural labourer in Tiruchirapalli and Thanjavur, it may be impossible to extend this particular series much further. But the need to

trace changes in the rural economy of south India through the fortunes of labourers will remain.

Appendix 1

Calculating the monthly income of agricultural labourers

[1]. Lionel Place "Report of the Jaghire" 6 October, 1795. Properly speaking, this value should not be included in the graph, since it reports real wages from Chingleput, and not the lower Kaveri. But, since it has no effect on the trend line, I have elected to include it. Place reported the calavasam "or the Subsistence of the labouring Pariar Servants of the husbandmen". This was a percentage of the crop distributed by the landholders and varied from a low of 3 ½ to 11 1/9 per cent. Place summarises his investigations: "...in the end [this] equalizes the whole to about 2 ½ cullums [kalams] or 105 pucca seers per month". Let us start from the weight of a tola, which was the weight of a rupee, as .411 oz. (.00117 kg). There were 3 tolas to the palam, giving the latter a weight of 1.234 oz. (.0349914 kg). At the time there were 25 palams (or 75 tolas) to the pukka seer (one source indicates that there were 24). [The later Imperial Seer contained 80 tolas and weighed 2.057 lbs or .933 kg]. The former equivalence gives a weight of 1.929 lbs (.875 kg) to the pukka seer, the latter a weight of 1.85 lbs (.839 kg.). Taking the former value as more authoritative gives the weight of a month's income for labourers as 202.5 lbs (91.85 kg) which is the value I have used here.

[2]. C.M. Lushington 1819 'Information...regarding the former and present condition of the Pullers [Pallars]' Madras Board of Revenue Proceedings. Lushington estimates that the yearly income of a Pallar man and wife in Trichinopoly was 26-1/8-5/8 kalams-markals-padis. The Trichy kalam originally contained 39 (later 40) measures of 100 in². Because the volume of the padi went through many variations in the early 19th century (see Mayer 1980 pp. 22-23), while the kalam appears to have been relatively unchanged, I have adopted the kalam as having a volume of 4000 in³ and as containing paddy weighing about 94 lbs. (42.638 kg) as also reported by Vaidyanathan (1918, p. 225). The volume of the markal is variously reported as being 2, 4 or 8 measures (!), depending presumably on the volume of the measure. Moore indicates that in Tiruchi a markal of padi weighed 312 arcot doodies of .506 oz. each, yielding a weight of 9.867 lbs (4.4759 kg). Finally, the official measure or padi of the time seems to have had a volume of 100 cu. in. and contained paddy weighing 2.47 lbs. Thus the total annual income estimated by Lushington would be 2535+1.25+1.56=2537.8 lbs. (1151.13 kg) or 211.48 lbs (95.93 kg) per month. I should add that my result is a great deal less than the 9072 lbs. per year, or 756 lbs. per month suggested by Benedicte Hjejle (1967, p. 83, fn. 24).

[3*]. W. Elliot Madras Board of Revenue Proceedings, 19 July, 1847. cited in B. Hjejle, 1967 pp. 107-8. I have tried on many occasions to make sense out of Elliot's figures as reported by Hjejle: "One month's pay in Ceylon equaled two years' income at home. In Trichinopoly their earnings amounted to 4 or 6 annas per month, while in Ceylon they were paid about 9 rupees..." (p. 107). Using Puckle's figure of the average price of grain in Tiruchirapalli between 1801 and 1852 of 8 annas per Harris Cullum of 24 Madras Measures (of 104 cubic inches), gives a

monthly income of at most 18 Madras Measures a month or 43.8 lbs, a result which I judge to be impossibly low. For this reason, I have not included this figure when calculating the regression equation in the chart.

4. R. K. Puckle, "Scheme for the Revision of the Assessment of the Trichinopoly District." 28 November, 1862. In Selections from the Records of the Madras Government, 3d Series, Vol. L, "Papers Relating to the Survey and Settlement of the Trichinopoly District". Madras: Madras Government, 1876. Puckle reported that wages for Pallars

in the irrigated talooks [taluks] are invariably paid in kind, and are equivalent to about 2 Rupees per mensem. The mode and rates of payment vary however in every talook, though they always include a sufficiency of daily food as well as sundry perquisites of greater or lesser value. The former consists invariably of a measure and a half or two measures of raw grain per diem and the latter of a small percentage of the out-turn of the harvest, the sweepings of the threshing floor, a cloth or cumbly [blanket] annually, a pair of sandals and a trifling present in ready money to celebrate the pongal or other festival (p.9).

This gives a minimum figure of 45 to 60 measures per month. If we take the average of these, that is 52.5, it gives an estimated minimum income monthly income of 129.68 lbs per month, or about 60% of Lushington's figure. An alternative calculation, based on the average selling price of paddy between 1853 and 1858—when prices were relatively higher than they had been in the previous forty years—of Rs. .901 per Harris Cullum of paddy assumed to weigh 62.5 lbs., giving a very similar result of 138.7 lbs per month. A third estimate can be made using the Commutation Price—that is the long-term average price of rice that was assumed by government for purposes of taxation. In his revision of revenue Puckle used the figure of Rs. 1 = 120 lbs. of paddy. Since Puckle gives no other indication of the price he used in making the conversion from kind to cash, this may very well be the figure he used. On this basis, a wage equivalent of Rs. 2 per month is equal to 240 lbs. per month. I have adopted this figure here.

5. Lewis Moore . Manual of the Trichinopoly District in the Presidency of Madras. Madras: Government Press, 1878. Moore's figure is one I use with some hesitation, since he gives only figures for daily wages paid to agricultural labourers, converted into money terms (p. 108) and a number of assumptions must be made in estimating the monthly equivalent over a year. Moore, regrettably, does not give us a figure for permanently attached labour. Rather he gives the wages ordinarily received by day labourers, male and female. For men, the daily wage was 4 annas; for women it was 1 anna 8 paise. In Appendix 6, p. 366, Moore gives a series of prices for paddy between 1866 and 1875. I have adopted a price of Rs 140 per garce as an average price. There were 3200 Madras Measures in the garce referred to by Moore (see Mayer 1980, p. 24 for a discussion of the weight of the garce). Since Moore gives a generalised weight of a Madras Measure apparently based on husked rice, I have used the weight of a Madras Measure of paddy as 2.466 lbs, giving the weight of a garce of paddy as 7891.2 lbs. In calculating overall income levels, we need to know how many days paid work might ordinarily be expected. Assuming a range between 160 and 200 days per year, the monthly wage would be between 260 lbs and 325.5 lbs. In this paper

I have used the figure of 180 days which yields over a year, a monthly income for a man and a woman of about 286.7 lbs.

[6]. S. Vaidyanathan "Trichinopoly District" in Gilbert Slater Some Indian Villages, Oxford: Oxford University Press, 1918. Vaidyanathan's figures for an unnamed village in Lalgudi taluk are particularly straightforward. He indicates that in 1916 a Pallar pannaiyal and his wife receive 40 kalams—of 37.5 measures each—per year (p.229). In addition to the wages they received from their principal employer, the couple typically earned an additional Rs 20 from outside work, worth an additional 10 kalams. At 2.5 lbs. per measure, the total of 60 kalams gives an monthly real wage of 390.6 lbs. This apparently high wage was probably a result of high prices and labour demand during the First World War, but perhaps also because Vaidyanathan included extra earnings.

[7]. P. J. Thomas, (Ed.) Some Indian Villages: A Resurvey, Madras: University of Madras, 1940. There was no resurvey of Lalgudi in the 1937 resurvey coordinated by Thomas. In adjoining Tanjore (Thanjavur) Thomas indicates that the annual wages of an attached labourer were 60 kalams a year—using a 24 measure kalam— plus wages worth an additional 7.1 kalams—giving an annual income of 67.11 kalams (p. 137). This gives a monthly wage of 335.8 lbs.

[8]. The veteran political activist S. Ramaswamy informed me, on 2 April, 1980, that between 1942 and 1950 he paid male pannaiyals in his family village in Thiruvengimalai, Tiruchirapalli District 2.5 bags of paddy per month plus 10 annas per day. Women received 10 annas per day. Young men received 1 bag per month. The base male wage was thus 300 lbs. per month. On the basis of 180 days employment per year, and an average wholesale price for rice in Madras in 1950 given by the Ministry of Labour as Rs. 21.8 per maund (of 82.28 lbs each) , a woman would have earned 35.38 lbs. of rice per month. The family monthly total would thus have been 335.38 lbs.

I should note in passing that I have not used the figures given by the Ministry of Agriculture for Vandalur village near Chingleput. Not only is the location wrong, but the figures they give of an annual income, in grain terms of 1219 lbs., or 101.6 lbs. per month, seems implausibly low.

[9]. Hisashi Nakamura Accululation and Interchange of Labor: An Inquiry into the non-Market Economy in a South Indian Village. Tokyo: Institute of Developing Economies, 1967. Nakamura reports from his study of Abinnimangalam village in eastern Musiri taluk of Tiruchirapalli district that in 1967, there were fourteen pannaiyals in the village.

The pannaiyals work from early morning until sunset and receive sixteen bags of paddy a year as payment. In addition, at the annual festival of Mariamman Kovil held in May, they customarily receive thirty to forty rupees in cash, one dhoti or loin cloth, one shirt, one pair of leather sandals, and one towel...It is generally considered in the village that sixteen bags of unhulled rice is sufficient to feed a family of three (p. 38).

According to other figures given by Nakamura, the cash payment is worth about 50 lbs of paddy; I estimate that the clothing is worth the same again, giving a total annual wage of 2135.2 lbs or 177.3 lbs per month. This amount is much lower than any other so far reported.

Nakamura states that despite the security of the position, "at present there are few applicants for the position of pannaiyal among the Paraiyan who are the

source of agriculture labourers....[B]ecause the labor intensity is quite high and there are few holidays and little free time for working on one's own land when he becomes a pannaiyal, more farm workers are inclined to become padiyal." (p. 38). Of the latter, Nakamura says: "The standard wage of the farm laborer has changed little during the past ten years. A male padiyal gets 2.5 measures of crop (mainly paddy) plus lunch or cash of 1 rupee plus lunch while a female gets 1.5 measures of crop or 0.5 rupee in cash" (p. 40). A man and wife might therefore earn the equivalent of 4.5 measures of paddy per day. Nakamura doesn't give an estimate of the number of days per year that a padiyal might expect to secure employment. If we assume, as before, that they secure work for 180 days per year, this gives family income of 2146.5 lbs or 178.9 lbs per month, virtually the same as that earned by a pannaiyal.

[10]. Francine Frankel (1972) *India's Green Revolution*, Princeton University Press, Princeton. Frankel reports from adjacent Thanjavur in 1969 that attached labourers: "who still receive the greater amount of their annual earnings in kind, have fared better than [those hired on a daily basis]." (p. 105). Frankel continues:

Permanent laborers generally receive food, housing, and some clothing from mirasidars. In addition, depending on individual arrangements, they receive monthly payments, both in cash and kind, or in cash only. Those permanent laborers who receive the largest portion of their monthly wage in kind enjoy the most favored position. In such cases a laborer typically receives one and one-half bags of paddy per month, plus Rs. 2 in cash; during the harvest there are additional kin payments of about two Madras Measures [1.22 kg or 2.7 lbs] of paddy per day. (p. 105)

This gives an annual wage of 2428 lbs (2250 + 16 + 162) or a monthly wage of 202 lbs. Frankel's figure is quite similar to Nakamura's; together they suggest that there was a sharp decline in real wages in the late 1960s.

[11]. A.N. Selvaganapathy "Chellappa", interview, 30 March 1980. I interviewed Chellappa, a 'mirasidar' in Arupadi village, Mayavaram taluk, Thanjavur District. He gave me three alternative accounts of wages.

i) He said that there are only a few pannaiyals left in the village. His account of payments to a pannaiyal illustrates how complex the annual wage bill is. A pannaiyal receives 1 marakal (2 Madras Measures) of paddy per day plus Rs. 25 per month; his wife receives $\frac{3}{4}$ of marakal and no cash. "It's very low, but he also shares a portion of the produce with me. In the kuruvai (August-September monsoon crop) out of 12 marakals, after deducting charges, I give one marakal kalavaDi to him. There are other fringe benefits; the threshing floor is not completely swept; they'll get 4 marakals. After winnowing, there'll be some paddy in the chaff; he gets that, too. Altogether, munwai [fringe benefit] comes to 9 marakals. Only when he harvests a big piece of land—say three acres in a day—he'll get more because in one day he is taking everything due to him. I'll give him modal kuthu (first cut), one bundle out of those brought to the threshing floor. I'll also give him kadeshi kuttu (last cut) in the same crop or the samba crop—the last bundle of harvest for the year. If there's a poor yield, he may get 4 marakals; an average crop will yield 6 and a bumper crop 9. In addition, there is airan kadeshi; we leave a piece of land in the seed bed of about 13-15 cents (hundredths of an acre); he harvests that and takes away about 2 bags."

"At Divali we give a dhoti and a towel to the males, a sari to the wife plus Rs 2 cash and jaggery, coconut and plantains plus 1 marakal paddy. At the Pongal festival we give pongal varisai of Rs. 2. On his son's marriage, we may give a bag of paddy. He must buy a thali [marriage necklace]. We can't afford to buy it any more. We used to give 250 grams of gold, now we give Rs 50 cash. It's beneficial for us: we get a female labourer. At a death we give bamboo and may bear some expenses."

He added that "the Government has fixed the pannaiyal's harvest share at 1/7th. They get the same daily wage as before, but receive none of the other perquisites. Mine prefer the old system".

Payments to pannaiyals are thus 276.6 lbs per month in kind plus 50.8 lbs worth of cash, giving a base salary of 326.43 lbs per month. Harvesting bonuses and festival perquisites come to around 487.2 lbs per year. My estimate of the total income is 4404.4 lbs per year or 367 lbs per month.

ii) Those paid on a monthly basis (maasa chamalam) receive 2 bags of paddy per month plus Rs. .50 per day. This yields a monthly wage of 283 lbs and a yearly wage of 3403 lbs.

iii) Those paid only of a daily basis will be hired for 3 to four months of the year. During that time they will be paid at the rate fixed by government of Rs 7.25 per day. This gives a year cash income of Rs 870 which was the equivalent in 1980 of 1768 lbs or only 58.9 lbs per month on a yearly basis.

I have used the annual wage for a pannaiyal in preparing the chart.

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- ¹ Dharma Kumar, *Land and Caste in South India* (Cambridge: Cambridge University Press, 1965), p. 3.
- ² Peter Mayer, "The Penetration of Capitalism in a South Indian District: The First 60 Years of Colonial Rule in Tiruchirapalli," *South Asia* III (1980): 1-24.
- ³ Dharma Kumar, *Land and Caste in South India* (Cambridge: Cambridge University Press, 1965), p. 145.
- ⁴ *Ibid.*, pp.162 ff.
- ⁵ Sheila Bhalla, "Real Wage Rates of Agricultural Labourers in Punjab, 1961-77," *Economic and Political Weekly* XIV (1979): A57-A68.
- ⁶ Sunanda Krishnamurty, "Real Wages of Agricultural Labourers in the Bombay Deccan, 1874-1922," *The Indian Economic and Social History Review* 24 (1987): 81-98.
- ⁷ Kamal Kumar Ghose, *Agricultural Labourers in India: A Study of the History of their Growth and Economic Condition* (Calcutta: Indian Publications, 1969).
- ⁸ Krishnamurty, "Real Wages of Agricultural Labourers in the Bombay Deccan, 1874-1922," 81-98, p. 83.
- ⁹ Kumar, *Land and Caste in South India*.

¹⁰ P.G.K. Panikar, "Employment, Income and Food Intake Among Agricultural Labour Households," *Economic and Political Weekly* XIV (1979): 1464-1470, p. 1466.

¹¹ Krishnamurty, "Real Wages of Agricultural Labourers in the Bombay Deccan, 1874-1922," 81-98, p. 83.

¹² Kumar, *Land and Caste in South India*, pp. 166-7.. Replicated in Figure 2 below.

¹³ Bhalla, "Real Wage Rates of Agricultural Labourers in Punjab, 1961-77," A57-A68.

¹⁴ Cited in Alan Heston, "National Income," in *The Cambridge Economic History of India*, ed. Dharma Kumar and Megnad Desai (Delhi: Orient Longman & Cambridge University Press, 1982), p.405.

¹⁵ See Colin Clark for an attempt to make worldwide comparisons based on grain equivalents Colin Clark and Margaret Haswell, *The Economics of Subsistence Agriculture*, Fourth Edition ed. (London: Macmillan St Martin's Press, 1970), Chapter IV.

¹⁶ Kumar, *Land and Caste in South India*, pp. 147-151.

¹⁷ *Ibid.*, p. 149.

¹⁸ Mayer, "The Penetration of Capitalism in a South Indian District: The First 60 Years of Colonial Rule in Tiruchirapalli," 1-24.

¹⁹ Kumar, *Land and Caste in South India*, pp.157-8.

²⁰ Lance Brennan, J[ohn] McDonald, and Ralph Schlomowitz, "Trends in the Economic Well-being of South Indian under British Rule--The Anthropomorphic Evidence," *Explorations in Economic History* 31 (April, 1994): 225-260, p. 247. observe that "there was no secular increase in the height of South Indian emigrants going to Fiji and born between the 1860s and 1890s. See also their discussion of the debates on 19th century wage trends (pp. 250-251).

²¹ Heston, "National Income," p.404.

²² Cited in *Ibid.*, p. 40.

²³ M. Atchi Reddy, "Wages Data from the Private Agricultural Accounts, Nellore District, 1893-1974," *The Indian Economic and Social History Review* XVI (July-Sept, 1979): 301-321, p. 320. notes that data from private sources in Nellore "show a more or less steadily declining trend" for the period from 1893 to 1971. His figures show that daily wages in 1971 were only 46% of what they had been in 1916 (p. 321). Colin Clark gives wage series from Egypt and Vietnam which show roughly similar patterns of long-term reduction in daily wage rates Clark and Haswell, *The Economics of Subsistence Agriculture*, pp. 147 & 150.. David Feeny confirms that the Depression wiped out income gains in Cochin China, Thailand and Burma David Feeny, "The Moral or the Rational Peasant? Competing Hypotheses of Collective Action," *Journal of Asian Studies* XLII (August, 1983): 769-789, p. 773.

²⁴ Clark and Haswell, *The Economics of Subsistence Agriculture*, pp. 146-7.

²⁵ Hari P. Sharma, "The Green Revolution in India: Prelude to a Red One?," in *Imperialism and Revolution in South Asia*, ed. Kathleen Gough and Hari P. Sharma (New York: Monthly Review Press, 1973), pp. 80 & 94.

²⁶ *Ibid.*, p.96.

²⁷ Kathleen Gough, "The Green Revolution in South India and North Vietnam," *Bulletin of Concerned Asian Scholars* 10 (January-March, 1978): 13-23, p. 14.

²⁸ Peter Mayer, "Is There Urban Bias in the Green Revolution? Report on a Field Trip to North Thanjavur," *Peasant Studies* 11 (1984): 213-235, p. 226.

²⁹ See for example Radha Venkatesan, "191 Villages Prone to Atrocities Against Dalits: Study," *The Hindu*, 8 August 2001.