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THE BEHAVIOUR OF FARM PRODUCT PRICES IN TAMIL NADU An Investigation into the Demands of the Farmers' Movement

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THE BEHAVIOUR OF FARM PRODUCT PRICES IN TAMIL NADU*

(An Investigation into the Demands of the Farmers' Movement) BARBARA HARRISS

1. Introduction

This paper has two aims ; firstly to make available in as detailed a form as time has permitted some standardised and comparable information on farm and non farm wholesale prices in Tamil Nadu. Secondly, it investigates two hypotheses about these prices. A major policy plank of the Agriculturalists' Movement is that there has been a secular deterioration against agriculture in the agricultural/nonagricultural terms of trade. An alternative assertion (Jha, Financial Express 16 December 1980) is that the present agriculturalists' agitations stem from a crisis of commercialisation. "The root cause ... is the shift from low risk predominantly subsistence cultivation to high risk cultivation mainly for the market and the consequent vulnerability of the farmers to market forces over which they have little or no control!" Supplies of newly commercialised crops are thus facing new or expanded monopolistic markets. Data on agricultural prices are necessary to flesh out these somewhat skeletal statements.

A very significant fact is that data has not been collected by the Tamil Nadu Government in a form amenable to a long term study of this important subject. It is unlikely that it has been collected adequately anywhere in India. While useful disaggregated farm price data exists from the beginning of the <u>Annual Season and Crop Reports</u>, commodity specific data for non agricultural products is only available from 1975 onwards for the State as a whole from the Department of Statistics. Going

*This study was conducted by Dr.Harriss when she was a Visiting Fellow in the Institute. back to 1947 however, is the <u>Consumer Price Index for Aqri-</u> <u>cultural Labour</u> disaggregated into agricultural and non agricultural components and published in the monthly <u>Statis-</u> <u>tical Supplement to the Fort St. George Gazette</u>. Of a similar age are consumer price indices for the industrial labour force in 7 major towns and cities of Tamil Nadu. The Government's major concern with respect to price parities has clearly been with the rural and urban, non-asset-owning workforces, not with classes of producers exchanging commodities on the market.

This paper consists of brief commentaries on 13 Tables made available here in the hope that they will inform debate and decisions on the subject of agricultural price policy in Tamil Nadu.

Detailed notes setting out the sources, methods of compilation strengths and weaknesses of the price information computed and presented here is appended to these Tables.

We have taken as a base line the year 1958 since <u>Season</u> and <u>Crop Report</u> data existed back to this date in the library of Madras Institute of Development Studies. It is also an unexceptionable year in terms of both rainfall and production, a fact important in the choice of base lines. We have extended price indices through very nearly two decades to 1977 which was also an unexceptionable year. Published data after this year was not generally available in 1980. Where possible, data for the State as a whole has been disaggregated for 4 Districts representative of 4 distinct agro-ecological zones within Tamil Nadu;

- (i) Thanjavur (normal rainfall 1143 mm) a paddy growing, canal-irrigated region
- (ii) North Arcot (normal rainfall 966 mm) a paddy and groundnut growing region irrigated by tanks and wells

(iii) Tirunelveli (normal rainfall 809 mm) a dry district

(iv) Coimbatore (normal rainfall 694 mm) a very dry district with a long history of well irrigated commercialised agriculture.

We present basic data for:

- (i) assessments of the terms of trade: free market wholesale prices of agricultural commodities in Table 1-3, interdistrict indices of agricultural production (Table 4) and wholesale prices of non agricultural commodities (Table 5-7);
- (ii) variability in the behaviour throughout the State of free market wholesale prices of agricultural commodities (Tables 8-13).
- 2. Wholesale price indices for agricultural commodities (Tables 1 3)

There are significant and consistent differences between groups of agricultural commodities with respect to rises in their wholesale prices.

Amongst the grains free market wholesale prices in the four districts for which data is presented rose least (3.3 times between 1958 and 1977) for cumbu and ragi. They rose 3.4 times for cholam and most, 3.5 times, for rice.

For vegetables we have data for onions (a 2.5 times price rise) and chillies (3.6). As with grains these are amongst the lowest price rises over the period.

Producer prices for pulses rose more than for grains and vegetables. Prices for Bengal and Horse gram rose 4 times, for black gram 4.2 times and for green and red gram 4.3 times. Producer prices for commercial crops rose most of all: gingelly 4.4 times; tobacco 4.7 times; sugar cane (gur) and groundnut 5 times; and cotton 6 times.

The last three crops whose free market prices have risen most are precisely those crops whose current prices least satisfy members of the Farmers' Associations in the State.

But the coefficient of variation of average wholesale prices in these broad commodity groups has remained constant over time.

The price indices appear to fluctuate in different ways, though a rigorous analysis of their deviations from their respective trend lines (where price indices are regressed against time as the independent variable) can only be attempted later.

i) Certain crops register almost continual inflationary rises through time, for instance cotton, green gram and groundnut (in two districts).

ii) In other cases droughts - extreme events - provoke a peaking of prices which act as a ratchet hoisting post drought prices to higher levels than those pre drought. This is characteristic of the foodgrains. Monopoly procurement at fixed prices has generally been initiated <u>after</u> the incidence of drought, and has resulted in an upwards hike and ratcheting of most cereals wholesale prices when procurement restrictions were lifted afterwards. In the case of some minor grains however (korra, varagu, samai) procurement itself was the extremest event. The procurement price calculated for and made standard for all grains was itself the primary cause of an upwards ratchet from very low pre drought price levels, rather than drought itself.

iii) Many crop prices are marked by cyclical rises and slumps usually around a secularly rising trend line. Tobacco appears to have a 2 year cycle. Red gram and Bengal gram

2 to 3 years; groundnut in 2 districts a 3 - 4 year cycle; sugar cane 4 - 5 years; black gram 6 - 8 years. Additionally some crops exhibit composite cycles differing in amplitude according to the region. Onions have a 2 - 3 year cycle in North Arcot but behave irregularly in Coimbatore and Tirunelveli. Gingelly has a 3 - 4 year cycle in North Arcot but in Thanjavur and Tirunelveli there are two 8 year runs of continual price rises (pattern (i)). Chillies seem to have a 6 year cycle in North Arcot but 3 year cycles in Coimbatore and Tirunelveli.

These "hog cycles" indicate sensitive responses in terms of farm production decisions to relative prices in preceding years. They characterise a commercialising agricultural economy. They result in considerable price instability. To what extent they result in income instability in the agricultural sector is a separate question. That the "hog cycles" evidently developing for certain crops in Tamil Nadu behave very irregularly over space is suggestive of imperfections in the marketing systems.

3. The "Terms of Production" between districts of Tamil Nadu

Table 4 gives indices for changes in the value of agricultural production using prices specific to each of the 4 districts taken for case study. Using Value Index B, calculated with the average value of production of the 4 districts as base, so that the performance of different ecological regions is directly comparable, it can be seen that in 20 years the value of production of the dry district (Tirunelveli) has increased three times in terms of current prices, that of the well and tank irrigated district (NA) 4 times, that of the canal irrigated district (Th) 5 times and that of the well irrigated very dry district (Cbe) 8 times. The difference in total value between the richest and poorest districts has widened by a factor of three over this score

of years. Index B for the value per hectare shows that the value of production in N. Arcot has quadrupled, that in Thanjavur and Tirunelveli has increased by 4.4 and that in Coimbatore by 7. The difference in value per hectare between richest and poorest districts has widened by a factor of 7 over these years. These changes reflect four factors: change of yield, changes in crop mixes, changes in acreages and changes in prices. Here we can only note:

i) that rises in the indices of value of production generally exceed those of commodity prices,

ii) that the income terms of trade will thus be less adverse or more advantageous to agriculture than are the barter terms of trade (if we make ceteris paribus assumptions about non agriculture)

iii) that these terms of trade will show massive regional variations, dryland regions dropping behind, monocultivated regions such as Thanjavur, the State's rice bowl having a mediocre performance in terms of this composite index, and a dry region specialising in commercial crops whose prices have risen most registering a disproportionate increase in agricultural wealth. It is precisely this (type of) region which is the focus of the Agriculturalists' Agitation.

More of the structure of agriculture is revealed at times of extreme events. During the massive interregional drought of 1965-67, prices tended to rise disproportionately to the fall in production so that the value of agricultural production was relatively little affected although disparities between dry-subsistence and dry-commercial districts (respectively Tirunelveli and Coimbatore) witnessed an increase. During a localised drought which hit the dry-subsistence district alone in 1975-6, general price levels in other districts were not affected, prices in Tirunelveli did not respond to a fall in production and the value of production declined considerably.

It would seem that an intense but localised drought may have a more deleterious effect on the incomes of agricultural producers in the affected region than a geographically widespread drought. The former are more common than the latter.

Non-agricultural wholesale prices (Tables 5 - 7)

We explained earlier that data for non agricultural goods is not available in a useful form for the State until 1975. All-India wholesale market prices for a large number of goods are available (Table 5) together with the disaggregated non agricultural components (Table 6) of the consumer price index for agricultural labour (Table 7) for 6 villages chosen by the Department of Statistics as representative of conditions in the 4 districts we have taken for case study. It is especially important to refer to the notes on Statistical Sources of these data for their full details and for a critique of their value.

With regard to the All India data, the aggregated wholesale prices of foods rose at an 8 per cent faster rate over the time period than did the aggregated index for manufactured products. Among the basic goods that may be purchased by agricultural producers the price index for cycles doubled, that for cement rose 2.9 times, textiles 3.1 times and kerosene 4.3 times. Among "modern" purchased agricultural inputs the price index for fertiliser rose 2.4 times, electricity 3 times and insecticides 3.5 times. These rises are on a par with those for grains and vegetables but lower than those for pulses and commercial crop prices.

District level data for Tamil Nadu shows that the index of value per hectare rose 76 per cent faster than that for lighting and at the same rate as that for clothing in Tirunelveli, at 50 per cent faster than that for lighting and 10 per cent faster than that for clothing for North Arcot, at 76 per cent faster than that for lighting and 26 per cent faster than that for clothing in Thanjavur and at 170 per cent faster than that for lighting and 90 per cent faster than that for clothing in Coimbatore.

The general index of the basic cost of living for those not avning agricultural commodities rose at 8 per cent less than the rate of the index of value of production per hectare in Tirunelveli; 10 per cent in North Arcot, 19 per cent in Thanjavur and 44 per cent in Coimbatore.

The data we have been able to find which relates to free market wholesale prices cannot rigorously test the hypothesis that there has been a secular decline in the income terms of trade against the agricultural sector. But it does not lend support to it. It is likely that these terms of trade have maintained parity or have been slightly advantageous to agriculture in dry districts, more so to tank and to canal irrigated districts and very advantageous to agriculture in the dry commercialised districts over the period 1958-77.¹

We have not compared "free market" non agricultural wholesale prices with State procurement prices for agricultural products though this will be done later. State procurement prices generally have lagged at an increasing rate behind market prices. But they affect only a few of the crops we examine here and State procurement performance has rarely been of significance in Tamil Nadu except for paddy in Thanjavur.

5. The behaviour of free market agricultural wholesale prices in Tamil Nadu (Tables 8 - 13)

To recapitulate, we have seen that the crops and regions which have experienced greatest price and value rises are those where the Farmers' movement demands procurement price.

increases. Although we cannot construct a rigorous terms of trade index we have seen that market prices do not support their claim of a trend against agriculture in the barter terms of trade. We therefore turn to examine the second hypothesis that the real cause of the Agriculturalists' agitation is a crisis in the marketing of the newly commercialised crops resulting from the diversification of agriculture consequent to the introduction of HYV grains. Such newly commercialised crops should be experiencing highly 'imperfect market conditions and'or a deterioration in the spatial efficiency of pricing systems over time. We shall use two simple measures of market behaviour to test these propositions:

- the percentage differences between lowest and highest prices in each of 15 commodities in our 4 case study districts at two points of time separated by two decades (Table 13),
- ii) the coefficient of variation of annual wholesale prices of 24 commodities sold in the districts of Tamil Nadu (Tables 8-12). This measure may be used for direct comparisons of market behaviour, conditioned by two assumptions:

i) that the location of supplies and centres of demand do not change drastically over space for any one commodity during the time period,

ii) that transfer costs remain static or change through time at a constant rate over the regions of the State.

The extent to which these assumptions do not hold will independently affect the size of the coefficient of variation. We cannot examine these assumptions in this present

*The coefficient of variation is the standard deviation expressed as a per cent of the average. study and have to accept them.

Taking our case study districts first: 8 of the 15 crops experienced a marked rise in interregional price variability. (This group comprised rice; cumbu, green gram; horse gram and chillie, which all rose from about 6 per cent to about 25 per cent; and a group comprising varagu, samai and sugar cane rose from about 12 per cent to about 45 per cent). A further 4 crops experienced high but fairly unchanging interregional variability (cholam, ragi, gingelly and groundnut around 20-30 per cent). Only 3 crops witness a decline in the coefficient of variation (black gram, cotton and onion). To generalise for our subset of districts:

- in most crops the behaviour of the market has become more volatile and has deteriorated,
- ii) however, this is as true for old established staples as it is for more newly commercialised crops.

Taking our statistics of the coefficients of variation of annual wholesale prices in 24 commodities in the districts of Tamil Nadu, we shall make two further assumptions for our interpretation:

- that the average of the coefficients of variation for each crop is a useful summary statistic for its comparative market imperfection across space,
- that the coefficient of variation of the coefficient of variation is a useful summary statistic for a crop's comparative market imperfection through time.

From Table 8 to 12 we conclude the following:

i) that market behaviour for grains pulses and commercial crops varies more through time than it does across space (for 16 of the 24 crops by a factor of 3 and for 3 crops by a factor of 7)

ii) For all crops except three, the coefficient for the most integrated year are very low indeed varying between 2.8 and 5.9 per cent. These low extremes can be taken as bases by which the distortions of other years can be measured. For chillies (6.7) onions (10) and chewing tobacco (15.9) the lowest coefficients of all are much higher. So too are the majority of coefficients for all crops.

iii) For the newly commercialised crops of onions, coconut and betel vines price variability through space is twice as high as that of the great majority of crops comprising group (i) and suggests that markets are indeed highly unintegrated.

iv) For straws, which are localised goods not traded long distances and also newly commercialised, variability across space is extremely high and exceeds variability over time.

Now a high coefficient of variation of coefficients of variation may indicate a time trend in either direction in the behaviour of prices over space, rather than mere random fluctuations. To see if this is so, it is necessary to examine the patterns through time of each individual crop.

i) The biggest group of crops is actually characterised by no trend, the coefficient seeming to fluctuate randomly (ragi, varagu, samai, cotton, tobacco, onion, coconut and paddy straw).

ii) In another group of commodities (spanning all types but featuring commercial crops) the coefficients of variation deteriorate until the mid sixties after which point they improve, (cholam, sugar cane jaggery, gingelly, groundnut, horse and red gram, millet straw)

iii) The staple grain - paddy/rice - behaves in quite the opposite fashion. It also has the lowest co-efficient of variation,

iv) One grain - cumbu - one gram - blackgram and betel vines show a continual deterioration through time.

v) And a further group (castor, green gram) show deterioration until the mid sixties after which the coefficient of variation fluctuates apparently without trend.

We can conclude the following:

i) that commodity markets vary considerably in their behaviour between crops, regions and over time,

ii) that very faw crops are not characterised by either secular deterioration in price variability or by unpredictable fluctuations,

iii) that this has occurred either despite or because of the interventions of the State to prevent this behaviour

iv) that if this can be interpreted as a crisis in commercialisation it is a crisis across the board and not restricted to newly commercialised crops.

6. Conclusion

Neither the hypothesis that the terms of trade have gone against agriculture nor that that there is a crisis in the commercialisation of the newly diversifying agricultural system seem to have validity, according to the statistics that we have been able to gather.

The farmers' demand for a rise in the procurement prices for certain crops in an attempt most probably to increase the <u>security</u> of their involvement in the market economy. Their demand cannot be interpreted as indicating retrogressive private commodity markets for the crops concerned have witnessed (with the exception of paddy) the greatest rises in market prices. We have seen that there are few crops whose market behaviour has not deteriorated or fluctuated wildly over time. The evidence shows that it is not price levels so much as price security that calls for reform. Even so in Tamil Nadu it would seem that fluctuating prices responding to extreme events like big droughts tend to stabilise farm incomes. It is the localised extreme event: drought, a locally monopolistic market, a restricted State intervention, that may destabilise farm incomes as well as prices. Our evidence suggests that for the most part such distortions are either constantly occurring or on the increase.

There is no evidence to suggest that an appeal to the State to reform markets by partial intervention, if heeded and implemented as in the past, will not actually lead to anything but a deterioration in the behaviour of private markets. On one hand, increased procurement prices may reduce the gap between them and ruling market prices. They may as a result reduce the compensating distortions that tend to accompany partial State trading. On the other hand, however, such improvements to the performance of the free or residual market will be rapidly eroded by further compensating distortions if increased procurement prices are accompanied by increases in the presently meagre supplies sold to State mercantile institutions, and thereby reducing the supplies with which the private sector speculates.

This implication does not seem to have been realised. Instead political attention has been focussed on improving the regulation of private trade, which is an alternative path to State procurement and trading. However we have shown elsewhere that the regulated markets Act as implemented historically has little or no power over an evolving mercantile sector.

In the tussle to define rates of return and the pattern of accumulation and investment between commercial farmers and the industrial bourgeoisie slight changes in relative price levels favourable to the agricultural sector appear to be being achieved. Securing those relative price levels and destabilising farm incomes in an upwards direction seems to be the real aim of the Farmers' movement. An increase in the power of the regulated markets Act, or alternatively the comprehensive circumscription of private trading by State mercantile insitutions would, if they were to halt these behavioural irregularities, indicate a capitulation to these forces.

(1) We must acknowledge that the data at our disposal do not include the years 1978-81. The farmers' movement claims a long term trend against agricultural prices, not simply a short term movement and it is this long term trend alone which we have been able to investigate. In a rigorous analysis of terms of trade we would also have to weight prices of durable assets and of current expenditure. We would also need to include the flows of State revenue from and to the agricultural sector. And a general accusation about almost all published data is that it does not indicate the real barter terms of trade, which would have to be calculated with the village retail prices of non agricultural goods (which we have been fortunate to get here partly from the Rural Price Index Indices) and the producer prices of agricultural commodities at their point of sale (which are probably not exactly reflected in the Post Harvest Prices available to us since they are collected from market towns).

Farm Harvest wholesale Agricultural Commodity Prices - Tamil Nadu 1958-77

Grains

| | RICE | | CHOLM | | CUMBU | |
|------------------|-------------|-------------|-------------|-------------|---------------|----------------------------|
| | NA CBE | TH Tveli | NA CBE - | TH Tvel | i NA CBE | _T <u>H</u> Tye <u>l</u> i |
| 1957-58 | 103.6 104.7 | 100 100 | 107.3 99 | 100 89.2 | 104.5 100 | 100 97.9 |
| 1958-59 | 102.4 106.5 | 103.8 120.1 | 95.3 102.8 | - 106.4 | 114.5 107.7 | 104.6 94.2 |
| 1959 - 60 | 108.5 112.2 | 112.2 116.7 | 115 116.3 | 116.6 114.7 | 132.2 118.1 | 115.8 86.9 |
| 1960-61 | 127.6 121.9 | 119.1 128.3 | 110.9 120.8 | 115 107.3 | 121.1 121.4 | 116.1 117.5 |
| 196 1 62 | 131.7 124.3 | 123.4 127.8 | 109.3 122.4 | 117.2 113.1 | 124.4 128.5 | 119.5 106.7 |
| 1963-64 | 138.5 142.2 | 138.5 145.8 | 110.9 150.5 | 133.9 123.9 | 124.4 135.6 | 127.6 133.2 |
| 1964 - 65 | 142.4 147.8 | 142.4 148.7 | 168.7 209.3 | 165.2 130.7 | 163.4 187.3 | 157.8 134.2 |
| 1965 - 66 | 136.9 134.7 | 134.7 134.8 | 160.1 194.9 | 172.8 140.3 | 155.7 195.6 | 177.1 147.9 |
| 1966-67 | 148:9 148:9 | 146:8 146:7 | 159:7 159:7 | 159:7 159:7 | 167:8 167:8 | 167:8 167.8 |
| 1967-68 | 160.4 166.9 | 160.4 160.4 | 159.7 159.7 | 159.7 159.7 | 167.8 167.8 | 167.8 167.8 |
| 1969-70 | 209 209.1 | 209.2 214.3 | 226.8 235.1 | 223 213.1 | 218.1 217.7 | 223.2 206.7 |
| 1970-71 | 200 205 | 197.3 210.6 | 215.3 215.9 | 177.9 212.5 | 212.7 204.4 | 209 124.2 |
| 1974-75 | 441. 523.9 | 245 445.6 | 536.7 514.3 | 520.7 481.5 | 5 490.6 524.5 | 494•3 463•1 |
| 1975-76 | 320 382.4 | 313 312.4 | 309.2 332.9 | 308.3 318.8 | 316.4 353.7 | 319 365.1 |
| 1976-77 | 310 398.7 | 340.6 371.1 | 337.7 374.7 | 351.1 298.7 | 318.4 368.8 | 322 308.7 |
| Base | 46 ps/q | | 31.3 | | 29.8 | |

contd/-

Table - 1 Contd.

| AGI | C | ŀ | ORFA | VARAGU | | SAM | AI | |
|--------------------------------|---------------------------------------|----------------------------------|---------------|----------------|------------------|-------------------|-------------|------------------|
| NA CH | BE TH T | veli | CBE | NA | CBE | NA _ | CBE | Tveli |
| -1957-58 109.5 | 94.9 100 | 86.4 100.3 | 99.2 111.5 | 111,8 | 100 | 107 146 | 96 138 | 89 |
| 1959-60 124.4 | 105.1 – 110.5 115.9 117.7 120.7 | 111.9 | | 137•2 132•8 | 111 113 | 146 186 173 | 133 146 | 85 85 85 |
| 1961 -6 2 120 | 119.4 121.4 | | 127. | 133.8 | 116 | 167 | 136 | 92 |
| 1707 04 | 118.7 118.7 176.2 336 | 130 . 9 138 | 126 187. | 135•5 136 | 150 176•7 | 158 165 | 158 192 | |
| | 187.7 200 | 142 | | 144. | 214 | 146 . | | |
| | 170.1 170.1 170.1 170.1 | 170 . 1 170 . 1 | 180 180 | 219 219 | 219 219 | 235 235 | 235 .235 | |
| 1969-70 225.2 | 237.8 178.2 | 210.8 | 250 | 215 | 234 | 278 | 273 | 28,6 |
| 1970-71 226.8 | 193.5 206.8 | 202 | 205 | 232 . | 233 _. | 249 | 242 | 316 |
| 1974-75 558.2 1975-76 270.4 | | 474 281 . 3 | 577 301 | 341 • | 558 - | 344 | 603 - | 603 _. |
| | 345.9 308.8 | 338 | 367 | - | | - | | - |
| Base 29.4 | | | 29.7 | 22.8 | | 21.2 | | |

| Table - 2 | B-182- | rm Harv | rest Wr | nolesale | Agricu | Ltura | L Commodit | y Price | es Tamil | Nadu 19 | 58-19 | 77 | | | |
|--|--|--|---|---|---|---|------------|--|---|---|--|--|--|---|--|
| Commercial Cr | ops | | | | | | | | | | | | | | |
| | - Su | GARCANE | GUR - | | • • • • • • | | GINGELLY | - | - , - , - , -, -, -, -, -, -, -, -, -, -, -, -, -, | GROUN | DNUT (| POD) | ŔŶ₽Ă | N TC | CHEWING BACCO |
| | NA | CBE | TH | _Tyeli_ | NA | CBE | TH | Tveli | <u>NA</u> | CBE | TH | _ Tveli | CBE | Tvel | i_CBE |
| 1957 -58 1958 -59 1959 -60 1960 -61 1961 -62 1963 -64 1964 -65 1965 -66 1966 -67 1966 -67 1969 -70 1970 -71 1974 -75 1975 -76 1976 -77 | 104.3 101.5 120 103 99.8 183 165.6 170.8 270.2 309.5 217 263 360 383 421 | 98 110.1 164.7 140.2 117.5 226 206 212 307 343 244 291 361 384 580 | 100 - 135 127 111.3 208 191 189 280 601 183 288 416 524 531 | 90 135.9 127.3 3 111.3 208 191 188 280 601 217 300 361 417 472 | 110 107.5 118 115 119 119 117 145 187 186 264 297 462 382 434 | 92 110 126 144 152 131 145 207 254 238 276 262 262 421 328 439 | | 11 5 97 100 108 118 164 166 174 231 210 275 266 405 353 400 | 83.3 93.8 104.7 99.5 110.4 99.8 138 169 176 215 308 216 561 467 499 | 107 106 119.7 133 135 140 167 240 288 239 3C8 329 3C8 329 581 457 519 | 112 101 112 121 125 136 175 153 277 251 305 518 348 499 | 97 - 104 107 155 169 182 238 207 289 309 368 420 497 | 100 - 146 156 164 177 186 205 260 235 273 326 314 381 626 | 1153 116 118 116 170 177 183 196 181 183 295 390 366 577 | 116 135 146 145 138 234 193 219 175 220 177 312 408 635 |
| Base | 32.6 R | s/q | | | 76.4 | | | | 42.5 | | | 7 | 1 | | 133 |

Table - 3

Farm Harvest Wholesale Prices - Tamil Nadu 1958-1977

Pulses and Vegetables

| | | | | - | | | | |
|---------------------------|-------|--------|--------------|------------|------------|---------------------|------------|------------|
| | Benga | l Gram | - 's | Gree | n Gram | | Horse | Gram |
| | - CBE | _NA | _CBE | TH Tv | eli | _NA | CBE _ | Tveli. |
| | | | | | | | | |
| 1957-58 | 100 | 101 | 100 | 100 | 95.1 | .95.7 | 100 | 95.8 |
| 1958-59 | 149 | 126 | 149 | - | 142.9 | 1 10 | - | 117 |
| 1959 - 60 | 110 | 109 | 14- 1 | 102 | 123 | 108 | 101 | 80 |
| 1960-61 | 155 | 103 | 152 | 95 | 149 | 122 | 107 | 102 |
| 196 1-6 2 | 137 | 103 | 128 | 95 | 127 | 123 | 113 | 99 |
| 1963-64 | 138 | 111 | 151 | 106 | 142 | 125 | 122 | 184 |
| 1964-65 | 157 | 166 | 244 | 136 | 155 | 183 | 168 | 192 |
| 1965-66 | 247 | 192 | 251 | 166 | 169 | 212 | 193 | 184 |
| 1966-67 | 362 | 221 | 295 | 201 | 235 | 219 | 227 | 278 |
| 1967-68 | 265 | 261 | 352 | 231 | 269 | 230 | 217 | 217 |
| 1969-70 | 327 | 263 | 274 | 248 | 274 | 193 | 192 218 | 213 218 |
| \$ 970 - 71 | 275 | 257 | 309 616 | 225 387 | 316 533 | 239 4 2 7 | 424 | 459 |
| 1974 - 75 | . 573 | 423 | 550 | 311 | 335 | 277 | 277 | 277 |
| 1975 - 76 | 363 | 334 | 507 | | 408 | 477 | 371 | 368 |
| 1976-77 | 406 | 408 | -507 | 398 | 400 | | 211 | - |
| Base | 36.6 | 39•4 | | | | 28.5 | | |
| | Rs./q | | | | | | | |
| | | | | | | | | |

contd./-

Table - 3 Contd./

| | Black gram NA CHE TH Tw | Red Gram zeli NA CBE | | Chillies Li NA CBE Tveli |
|------------------|-------------------------------|-------------------------|--------------|-----------------------------|
| | | | | |
| 1957-58 | 107 94 100 9 | 92.3 97 | 110 77.8 126 | 96 104 99 |
| 1958 - 59 | 91 91 - 10 | 01 131 151 | 86 61 94 | 126 113 106 |
| 1959-60 | 87 89 89 9 | 90 106 126 | 90 66 75 | 132 150 116 |
| 1960 - 61 | 86 102 92 10 | 06 111 126 | 88 63 76 | 119 156 120 |
| 1961-62 | 90 109 96 10 | 07 109 112 | 90 69 69 | 127 156 130 |
| 1963 - 64 | 101 142 107 14 | 48 118 207 | 136 138 70 | 164 132 132 |
| 1964-65 | 18 9 15 7 113 1 | 53 211 252 | 119 145 80 | 175 134 132 |
| 1965 - 66 | 219 157 144 14 | 47 186 226 | 208 105 99 | 276 217 170 |
| 1966 - 67 | 223 251 246 19 | 99 · 246 2 46 | 251 216 260 | 317 254 327 |
| 1967 - 68 | 229 264 238 22 | 22 287 354 | 252 125 122 | 315 177 166 |
| 1969-70 | 197 211 188 19 | 3 281 281 | 209 186 193 | 310 363 299 |
| 1970 - 71 | 209 252 203 29 | 2 238 320 | 202 164 142 | 289 285 359 |
| 1974 - 75 | 224 412 298 37 | 72 329 536 | 423 513 461 | 429 433 437 |
| 1975 - 76 | 344 344 348 34 | 49 323 323 | 240 213 355 | 391 413 348 |
| | | | | |
| 1976-77 | 420 416 419 4 | 10 434 434 | 231 263 249 | 329 388 352 |
| Base | 54•3 |] ⊀∵ •1 | 17.6 | 141.8 |

Table - 4

Value of Agricultural Production in Districts of Tamil Nadu

| | | | 195 | 8-1977 | | | | |
|------------------|------------------|-----------------------|----------------|------------|------------------|--------------------|-------|----------|
| | NORTH Total v | I ARCOT value B | Valu A | e /ha B | COIME Total v | ATORE alue B | Value | /ha B |
| | | | | | | | | |
| Base | 100 | 88.3 | 100 | 102.2 | 100 | 126.3 | 100 | 92.9 |
| 1958-59 | 97.5 | 86 | .97.5 | 9915 | 125•5 | 158.5 | 125•4 | 116 |
| 1960 - 61 | 114.5 | 109.8 | 111.7 | 114.2 | 162 | 205.6 | 172 | 160 |
| 1961 - 62 | 140.4 | 124.1 | 127.6 | 13014 | 163 | 205.9 | 171 | 159•1 |
| 1964-65 | 1 90 | 167.8 | 166.9 | 170.6 | 324 | 409.3 | 348 | 323.9 |
| 1966-67 | 214 | 191.2 | 184•5 | 18815 | 268 | 339 | 297 | 277 |
| 1967-68 | 200.9 | 195 | 192.8 | 197.2 | 271 | 342.4 | 317 | 294.7 |
| 1970-71 | 344.2 | 304.9 | 305 | 312.3 | 367 | 463.7 | 413 | 384 |
| 1974-75 | 615.9 | 543•9 | 569 | 581.5 | 473 | 598 | 604 | 561 |
| 1975 - 76 | 583.8 | 515.6 | 521 | 532.9 | 533 | 673 | 614 | 571 |
| 1976-77 | 453.3 | 400.3 | 38 3. 3 | 393.7 | 539 | 800.7 | 732 | 680 |

contd/-

· 21 -

Table - 4 contd.

| - | | THANJAVUR | | | | TI | RUNELVE | LI - | | |
|------------------|-----------|---------------------|---------|-------------------|-------------------|--------|----------------------|-----------|-------|------------|
| Base | Total | value B 100.2 | Val | ue/ha B 102 | - Tot A 100 | | value _ B 81.5 | 1 | | B 102.7 |
| 1958 - 59 | 125.9 | 130.7 | 125.9 | 128.5 | 112 | | 91.5 | | 12.2 | 115.2 |
| 1960-61 | 151.9 | 157.8 | 139 | 142.1 | 126 | 5.7 | 103.3 | 1 | 15 | 118.1 |
| 1961-6 2 | - 146.8 . | 152.4. | .136 | 138,9 | , 16 <u>8</u> | 5 | 137.1 | · 1 | 50 | 154.2 |
| 1964-65 | 213.8 | 222.1 | 194•5 | 198.5 | 161 | •2 | 128.5 | 1 | 64.3 | 168.8 |
| 1966-67 | 193 | 200.5 | 171 | 174.8 | 168 | •9 | 137.8 | 1 | 68.7 | 173.3 |
| 1967-68 | 275.5 | 286.1 | 230 | 234.8 | 161 | .8 | 131.9 | 1 | 54•4 | 158.5 |
| 1970-71 | 347 •4 | 360.8 | 277 | 283•3 | 260 | .8 | 212.7 | 5 | 260.2 | 267.3 |
| 1974-75 | 413 | 429 . | 351 | 358.3. | 417 | •2 | 340.3 | 4 | 74•4 | 487.3 |
| 1975-76 | 584.4 | 606.9 | 470 | 480 | 233 | •5 | 190 | נע | 85.8 | 293.5 |
| 1976-77 | 479 | 498 | 427 | 436 | 378 | 8.8 | 309 | 4 | 26 | 437 |

Bases: NA value in '000 Rs.293802; Cbe = 420088; Th=345541; Tveli= 271371; Average for indext B= 332700; NAvalue/ha in '000Fs. 4905; Cbe 446; Th 490; Tveli 493; Average for index B = 480

| | | | | - 22 | 3 - | r | | | |
|-----------------------|-------------------------------------|----------------------|----------------------------------|-------------------|-------------------|----------------------------------|------------------------|----------------|---------------------------|
| Tab | ole - 5 | Non Agricu | ltural Who | lesale | Prices - | All India - | 1958-1977 | | |
| Commodity (weight) | Manufactured products (49.87) | lextiles (11.026) | Kerosene (0.835) | Cement (0.707) | Bicycle (0.16) | Electricity (2.4) | Fertilisers (1.252) | Insecticides | Food Articles (29.799) |
| Year 1958 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| 1959 1960 | 103.6 112.5 | 100.1 116.7 | 100 . 4 105 | 199.8 100.3 | | 103.5 106.4 | 100 100 | ÷ | 104•5 105•4 |
| 1961 | 116.3 | 123.6 | 104.3 | 108 | 112.8 | 112.7 | 99.7 | - | 105 |
| 1962 | 120.6 | 123 | 133•3 | 115.6 | 118.2 | 118.3 | 97 | 106.6 | 113.5 |
| 1963 | 125.9 | 124.7 | 142.6 | 119 | 118.9 | 125•5 | 95.9 | 105.3 | 115•9 |
| 1964 | 132.9 | 127.1 | 149.7 | 121.9 | 119.3 | 133•4 | 92.2 | 103.7 | 137.1 |
| 1965 1966 | 139.8 155.4 | 135.6 146.8 | 162 . 7 163 . 3 | 129•5 • 148•8 | | 136 . 8 151 . 4 | 94•5 100•5 | 107.8 116.2 | 152•8 172 |
| 1967 1968 | 176 . 5 178.5 | 150 153•8 | 164 .8 178 | 148•9 149•5 | | 154•1 157•5 | 117.2 123.5 | 118•2 121•1 | 214.8 204.8 |
| 1969 | 176.9 | 164.8 | 185.7 | 159 | 127.7 | 160.5 | 129.3 | 123•4 | 207.4 |
| 1970 | 188•4 | 177.7 | 194.9 | 164.4 | | 165.9 | 132.5 | 130.9 | 219.2 |
| 1971 1972 | 208•5 228•8 | 200 206•1 | 210 . 2 226 . 3 | 175•3 182•2 | | 171.2 176.3 | 134•1 139•4 | 136•4 145•1 | 220•5 235•6 |
| 1 973 1974 | 218.8 313.6 | 235•1 288•4 | 334•8 373•2 | 184•9 226•4 | 141•2 177 | 180 .7 220 | 146•5 238•5 | 165•6 246•4 | 280.8 360.9 |
| 1975 | 332.8 | 278.4 | 373.2 | 282 | 194.5 | 258.2 | 292. | 281.4 | 371.6 |
| 1976 1977 | 330 345 | 277.9 311.8 | 427 • 5 427 • 5 | 289•3 291•1 | 200.4 198.3 | 284.2 301.7 | 256•6 239 | 310•4 310•9 | 331.8 372.9 |

Table - 6

LIGHTING District North Arcot Coimbatore Thanjavur Tirunelveli Puliyur Kinathukadavu Thulayanathan . Village Agaram Eriodu Gokilapura 100 100 100 1958 100 100 100 1959 100 105 97.5 102 102.6 109.4 106 89.9 102 90.7 103.5 100. 1960 101.3 95.2 91.1 1961 100 110.3 89.3 100. 116.1 97.8 86 101.9 111.3 1962 117.3 105.5 112.2 115.3 1963 114.2 131 125.3 115.1 110.7 130.9 1964. 121.9 142.9 125.9 116.8 109 132 1965 123.6 147 125.3 125.9 111 152 140 1966 129.2 128.6 125 114 146 152 1967 129.2 146 134 135 117 129.8 153 1968 127 117 139 158 148 1969 133.9 118 141 119 162 150 136.9 1970 155 126 122 157 171 146.9 1971 139 128 161 128 174 151.1 1972 166 137 125 178 167.8 192 1973 215 233 178 247 221 1974 209.6 243 241 251 232 298 255.7 1975 248 253 252 260 266.5 322 1976

Non Agricultural Rural Prices - Tamil Nadu 1958-1976

contd/-

| | b • | CL | OTHINC | | | | | |
|----------|-------------|-------------|------------|------------------------------------|-------|-------|--|--|
| District | North Arcot | | Coimbatore | Coimbatore Thanjavur | | | | |
| Village | Puliyur | Agaram | Kinathukad | Kinathukadavu Thulayanathan Eriodu | | | | |
| 1958 | 100 | 100 | 1-00 | 100 | 100 | 100 | | |
| 1959 | 111 | 101.7 | 113.9 | 100 | 120.4 | 96.9 | | |
| 1960 | 111 | 101.3 | 120.5 | 99.6 | 113.6 | 96.4 | | |
| 1961 | 111 | 101.3 | 120.5 | 97.3 | 111.1 | 98 | | |
| 1962 | 113 | 101.7 | 127.9 | 107.6 | 126.6 | 128.8 | | |
| 1963 | 90 | 107 | 156.6 | 118.8 | 151.4 | 158 | | |
| 1964 | 101.4 | 115 | 193.6 | 116.6 | 173.9 | 154•3 | | |
| 1965 | 119 | 134 | 176 | 116.3 | 181 | 158 | | |
| 1966 | 132.8 | 154 | 180 | 140 | 185 | 177 | | |
| 1967 | 139 | 158 | 204 | 188 | 203 | 197 | | |
| 1968 | 145 | 166 | 219 | 217 | 219 | 216 | | |
| 1969 | 153 | 165 | 233 | 210 | 203 | 217 | | |
| 1970 | 147 | 167 | 221 | 213 | 193 | 217 | | |
| 1971 | 153 | 175 | 250 | 265 | 221 | 250 | | |
| 1972 | 165 | 1 88 | 232 | 279 | 246 | 251 | | |
| 1973 | 187 | 213 | 243 | 254 | 316 | 281 | | |
| 1974 | 242 | 282 | 362 | 273 | 345 | 385 | | |
| 1975 | 309 | 283 | 395 | 335 | 355 | 505 | | |
| 1976 | 379 | 432 | 371 | 347 | 378 | 511 | | |

| istrict illage | North , Fuliyur | Arcot Agaram | Coimbatore Kinathukadavu | Thanjavur Thulayanathan | Tirune Eriodu | elveli Gokilapuram |
|-------------------|--------------------|-----------------|-----------------------------|----------------------------|------------------|-----------------------|
| 1958 | 100 | 100 | 100 | 100 | 100 | 100 |
| 1959 | 106.8 | 108.1 | 102.6 | 101.7 | 115.2 | 111.7 |
| 1960 | 106.8 | 108.1 | 110.1 | 106.1 | 113.1 | 105 |
| 1961 | 113 | 111.1 | 116.9 | 106.1 | 113.9 | 107 |
| 1962 | 116 | 110.6 | 119.3 | 107.8 | 113.9 | 116.9 |
| 1963 | 114.5 | 115.3 | 123 | 115.9 | 118,6 | 124.5 |
| 1964 | 132 | 135 | 142.7 | 128.7 | 138.6 | 158.9 |
| 1965 | 147 | 147. | 150.7 | 148.3 | 152.8 | 194 |
| 1966 | 173 | 180.2 | 168.9 | 172.3 | 164.7 | 204.6 |
| 1967 | 200.8 | 194.3 | 177.2 | 197.6 | 184.3 | 230 |
| 1968 | 187.8 | 186.7 | 171.5 | 193.6 | 187.2 | 235.8 |
| 1969 | 200.6 | 198 | 180.3 | 203.8 | 195.9 | 242.7 |
| 1970 | 210 | 208.9 | 198.7 | 209.8 | 207.4 | 256.7 |
| 1971 | 210.9 | 209 | 224.6 | 216.8 | 204.9 | 258.3 |
| 1972 | 221.8 | 220 | 229.6 | 225.7 | 209.2 | 284.2 |
| 1973 | 259.6 | 253•4 | 287.2 | 247.2 | 255.6 | 344 |
| 1974 | 365.2 | 348.8 | 491.7 | 360.2 | 412.7 | 513.8 |
| 1975 | 433 | 379.8 | 554.2 | 443.2 | 472.2 | 562.3 |
| 1976 | 349 | 335•7 | 399.3 | 390.8 | 356.7 | 457.8 |
| 1977 | 415 | 394.5 | 421.7 | 409.1 | 390 .5 | 513.5 |
| 1978 | 404 | 391.2 | 387.9 | 363.8 | 359.9 | 453.8 |

- 25 -

Table - 8

- 26 -

| | A TET TTD | VALABILITI OF GRAIN FILLES IN TABIL MADE - 1957-1911 | | | | | | | | | |
|-----------|-----------|--|--------|--------------------|--------|--------|-------|---------|--|--|--|
| · · · · · | Paddy | | Rice | | Cholam | | Cumbu | | | | |
| | 1.V | Co,Var | AV | Co.Var | . VA . | Co-Var | VV | Co-Var | | | |
| | | | | | | | | | | | |
| 1957-58 | 27.03 | 11.08 | 45 • 1 | 7.2 | 30.9 | 10.8 | 29.8 | 3.5 | | | |
| 1958-59 | 30.4 | 10.1 | 50.2 | 7.9 | 31.7 | 6.8 | 32.9 | 9.3 | | | |
| 1959-60 | 33.2 | - 5.9 | 52.4 | 7.6 | 35.8 | 8.2 | 34.8 | 11.2 | | | |
| 1960-61 | 35.75 | 8 | 56.9 | 6.5 | 34.8 | 11.1 | 34.9 | 15.2 | | | |
| 1961-62 | 37.22 | 7.8 | 58.6 | 6.0 | 35.6 | 11.1 | 34.9 | 9.7 | | | |
| 1963-64 | 38.3 | 4.6 | 63.7 | 4.8 | 38.9 | 14.1 | 37.7 | 12.3 | | | |
| 1964-65 | 41.71 | 5.4 | 65.6 | 4.5 | 49.6 | 14.1 | 41.1 | 37.8 | | | |
| 1965-66 | 42 | 0 | NA | | 55.1 | 16.4 | 51.3 | 18.9 | | | |
| 1966-67 | 45 | 0 | 68.4 | 0 | 50 | 0 | 50 | 0 | | | |
| 1967-68 | 45 | 0 | 73.8 | 0 | 50 | 0 | 50 | 0 | | | |
| 1969-70 | 59.8 | 12.5 | 98.5 | 7.0 | 68 | 9 | 64.7 | 4.1 | | | |
| 1970-71 | 59.8 | 11.5 | 97.1 | 6.0 | 64.7 | 6.2 | 61.3 | 7.3 | | | |
| 1974-75 | 137.6 | 12.9 | NA | Ŧ | 164 | 5.2 | 149.6 | 5.2 | | | |
| 1975-76 | 102.3 | 9.7 | NA | . – . ¹ | .96.9 | 9.2 | 94•4 | 11.1 | | | |
| 1976-77 | NA | - | 164•1 | 8.1 | 108.6 | 6.9 | 97.2 | 10.3 | | | |
| | | | | | | 9.9 | | 11.9 | | | |
| Av.Covar | | 9.1 | | 6.6 | | | | 71.1 | | | |
| Covar Co | Var | 30.6 | | 17•9 | | 33.1 | | / / • / | | | |

VARIABILITY OF GRAIN PRICES IN TAMIL NADU - 1957-1977

Price is in Rs./quintal

Contd./-

Table - 8 cortd.

| - | | | | . ئر ـ ـ ت | | | | |
|--------------------|--------------|----------------|--------------|---------------|--------------|--------------|-----------------|--------------|
| | Rae | ji | Korra | 1 | Varagu | ι . | Samai | |
| · . · | AV | Covar | VA | CoVar | AV | CoVar | AV | CoVar |
| 1957 - 58 | 29•5 | 9.6 | 27.6 | 11.6 | 22.9 | 20.5 | 21.1 | 12.3 |
| 1958-59 | 31.7 | 8.3 | D1 | - | 27.8 | 2.8 | 28.8 | 5.9 |
| 1959-60 | 33.6 | 7.2 | D1 | - | 23.5 | 17.5 | 28.9 | 23.3 |
| 1960-61 | 33.9 | 12.4 | D1 | - . ' | 22.1 | 20.8 | 22.8 | 47.9 |
| 1961-62 | 33•9 | 10•4 | D1 . | - | 22.8 | 19.4 | 25.1 | 26.1 |
| 1963-64 | 35•3 | 6.6 | D1 . | [*] | 30.1 | 16.7 | 32.6 | 26.1 |
| 1964-65 1965-66 | 47•9 52•4 | 7.8 19.5 | D1 1 D1 1 | - | 34•1 39•4 | 12•4 14•8 | 34•5 40•9 | 21.8 26.2 |
| 1966-67 | 50 | 0 | D1 | - ' | 50 | 0 | 50 [°] | 0 |
| 1967-68 | 50 | 0 ⁰ | D 1 . | . . | 50 · | ο ΄ | 50 | 0 |
| 1969-70 | 57•9 | 29.8 | D1 | - `. | 51.8 | 15.8 | D1 | · ++ |
| 1970-71 | 59.1 | 7.2 | D1 | | 45.1 | 17.1 | 52.3 | 9.1 |
| 1974-75 | 158.1 | 5.1 | D1 | - ' | 97.9 | 23.1 | 122.5 | 21.3 |
| 1975-76 | 80.4 | 5.5 | ND | ·· - ·* | ND | - ` . | ND | j <u>-</u> ' |
| 1976-77 | 98.2 | 7.7 | ND | | ND | - | ND | - |
| Av Covar | | 10.5 | | - · | | 16.4 | | 22 |
| Covar Co | * | 63 | | - | | 31.6 | | 50.6 |

| | Cane | Jaggery | Ging | elly | | od) ndnyt |
|--------------------------|-------|---------|---------|--------------|-------|--------------|
| | Av. | CoVar | Av | CoVar | - AV | Covar |
| 1957-58 | 32.6 | 6.3 | 73•5 | 10.8 | 42.1 | 10.7 |
| 1958-59 | 34.6 | 14.5 | 78•4 | 11.9 | 42.9 | 6.4 |
| 1959-60 | 41.5 | 24.8 | 82.6 | 8.8 | 46.8 | 8.9 |
| 1960-61 | 41.3 | 19.5 | 90.6 | 8.6 | 51.9 | 13.6 |
| 1961-62 | 36.4 | 5.0 | 94•6 | 9.5 | 53.1 | 12.9 |
| 1963-64 | 67.1 | 11.0 | 102.3 | 11.7 | 59•5 | 17.7 |
| 1964-65 | 61.3 | 10.6 | 114.5 | 12.3 | 73.6 | 19•4 |
| 1965-66 | 62.9 | 10.8 | 152.2 | 13.3 | 84.8 | 14.2 |
| 1966-67 | 94.6 | 10.1 | 172.2 | 19.7 | 103.7 | 18.3 |
| 1967-68 | 135.8 | 16.4 | 163.1 | 1:5.2 | 98.3 | 13.3 |
| 1969-70 | 68.8 | 15.3 . | 203.4 | 9.2 | 133.8 | 11.8 |
| 1970-71 | 96.3 | 13.2. | 200.1 | 7.5 | 123.2 | 16•9 |
| 1974-75 | 120.9 | 8.2. | : 354 | 5.9 | 306* | 10.6 |
| 1 975 - 76 | 147.0 | 11.6 | - 290 | 4 - 9 | 224* | 12.3 |
| 1976-77 | 158.1 | 12.6 | - 334.8 | 6.3 | 287* | 4.8 |
| Av Covar | | 12.7. | | 10.3 | | 12.8 |
| Co Var | | 38.5. | | 36•3 | | 31.7 |

Table - 9 contd

| <u>-</u> `- '` | Cotton | Kapas | Ca | stor | Chewing Tobacco | |
|------------------|--------|-------|-------|---------|-----------------|--------------|
| | AV | CoVar | Av | Covar | Av | Covar |
| 1957-58 | D1 | - | 51.0 | 3.6 | 133.4 | 17.1 |
| 1958-59 | D1 | _ | 47.5 | 7.4 | (179.8) | . <u> </u> |
| 1959-60 | 88.5 | 14.3 | 49.1 | 12.1 | 157.2 | 39.5 |
| 1960-61 | 104.8 | 16.4 | 49.7 | 14.4 | 191.7 | 43.3 |
| 1961-62 | 100.3 | 13.3 | 49.6 | 15.9 | 184.5 | 36.7 |
| 1963-64 | 115.9 | 6.5 | 51.5 | 19.6 | (294) | - |
| 1964-65 | 123.1 | 4.3 | 67.1 | 6.8 | (245) | |
| 1965-66 | 125+5 | 8.7 | 86.4 | 14.7 | (293) | |
| 1966-67 | 150.6 | 15.5 | 100.6 | 9.8 | (235) | . |
| 1967-68 | 144.6 | 9.2 | 93.2 | 5.9 | 296 | 15.9 |
| <u>1</u> 969-70 | 163.9 | 11.4 | 94.9 | 13.1 | (264) | |
| 1970-71 | 214.8 | 6.5 | 116.6 | 15.6 | (406) | |
| 1974 -7 5 | 220.9 | 16.2 | 187 | 10.2 | (535) | |
| 1975-76 | 255 | 12.7 | D1 | <u></u> | (845.9) | |
| 1976-77 | 366 | 13.2 | ND | | (630) | |
| AV CoVar | | 11•4 | | | | |
| Co Var | | 33•7 | | | | |

(1) Price is in Rs/quintal

(2) * Shlee Shelled groundnut, conversion factor for ped is 0.75

(3) Bracketed averages for chewing tobacco are when data is inadequate for calculation of the co-efficient of variation.

Table - 10

Variability of Pulses and Vegetable: Prices in Tamil Nadu

| | ÷., | <u> </u> | <u> 1957–19</u> | 977 | | | | | |
|--|------------|----------------|----------------------|----------------------|-------|----------------------|----------------------|----------------------|-----------------|
| | Bengal | gram | Greei | ngram | | Hor | se gram | | Blackgram |
| | .∠v | Covar | Av- | Covar | , | Av | Covar | Av | Covar |
| 1957-58 | D1 | - | 39•4 | 3.8 | . • | 28.6 | 9.6 | 54.3 | 3.9 |
| 1958 -5 9 | 51•3 | 6.5 | 54•3 | 5.6 | | 32.6 | 8.5 | 50.5 | 5.2 |
| 1959-60 1960-61 19 61 -62 | 41.2 D1 | 9.4 | 46.2 46.6 43.9 | 11.3 18.7 14.1 | | 29.9 33.2 34.2 | 15.8 13.3 15.5 | 48.8 50.4 54.0 | 6.0 6.8 8 |
| 1963-64 | D1 | . ' | 53•5 | 11.6 | ۰. | 38.5 | 20.2 | 67.1 | 12.9 |
| 1964-65 | D1 | - * | 70.5 | 16.8 | | 46.8 | . 11.9 | 77•9 | 16.5 |
| 1965-66 | D1 | - 1 | 79.2 | 13.9 | | 54.6 | 11.5 | 82.5 | 18.1 |
| 1966-67 | D 1 | - | 99•4 | 15.8 | , | 65.3 | 15•4 | 112.1 | 14.9 |
| 1967-68 | D1 | · - · | 108.9 | 13.1 | 2 | 63.3 | .13.6 | 117.9 | 16.0 |
| 1969-70 | D1 | - *, | 112.5 | 11.0 | | 60 - 5 | .11.8 | 112.5 | 8.5 |
| 1970-71 | - D1 | - 1 | 113.6 | 11.3 | | 61.6 | 8.9 | 117.6 | 34•4 |
| 1974 -7 5 | D1 | - | 193•4 | 21.1 | • | 123•3 | 3.9 | 196.4 | - 11•9 |
| 1975-76 | D1 | ÷., | D1 | - | , • 1 | D 1 | - | D1 | ۰. <u>ب</u> |
| 1976-77 | D1 | - | D 1 | - | ۰. | D 1 | - | D1 | |
| Av Co Var | | | | 12.9 | | | 12.3 | | 12.6 |
| Co Var Co Va | r | | | 35•5 | | | 32.0 | | 61.3 |

contd./-

- 30 -

- 31 -

Table - 10 Contd.

| | Redgram | | | Onions | Chillies | | |
|----------------------|------------|-------|-------|--------|----------|-------|--|
| | Av | Covar | Av | Covar | Av | Covar | |
| 1957-58 | 39•3 | 6.9 | 17.5 | 53.7 | D1 | - | |
| 1958-59 | 51.2 | 10.8 | 15.3 | 27.7 | 165.1 | 9.6 | |
| 1959 - 60 | 44.9 | 811 | 14.8 | 23.7 | 201.3 | 14.3 | |
| 1960 - 61 | 42.8 | 13.2 | 1348' | 24.5 | 196.1 | 11.2 | |
| 1961-62 | 44.5 | 15.9 | 13.6 | 19.2 | 190.8 | 8.8 | |
| 1963 64 | 56.5 | 23.7 | 19.9 | 19.9 | 208 | 15.8 | |
| 1964 - 65 | 81.9 | 15.7 | 19.6 | 22.7 | 199.7 | 15.9 | |
| 1965-66 | 80.9 | 12.3 | 21.6 | 32.2 | 282 | 18.6 | |
| 1966 - 67 | 90.8 | 7.9 | 37.0 | 15.6 | 367 | 16.1 | |
| 1967-68 | 110.5 | 15.4 | 23.0 | 45.3 | 220.3 | 22.3 | |
| 1969-70 | 112.4 | 5.4 | 38.0 | 11.5 | 439 | 10 | |
| 1970-71 | 110.2 | 9.9 | 28.1 | 16.7 | 394 | 13.2 | |
| 1974-75 | 189.9 | 6.2 | 68.2 | 20.6 | 640 | 16.6 | |
| 1975-76 | D 1 | - | 43.6 | 25.7 | 568 | 6.7 | |
| 1976-77 | D 1 | - | 41.9 | 10.0 | 490 | 10.2 | |
| Av Co Var | | 11.6 | | 24.6 | | 13.5 | |
| Co Var Co Var | | 42.6 | | 46.3 | | 30.9 | |

| | | Coconut per 100 | Betel per l | vines akh |
|------------------|------------------------|--------------------|----------------|--------------|
| | Av | Co-var | Av | Co-var |
| 1957-58 | 16.08 | 8.99 | D1 | - |
| 1958-59 | 17.5 | 11.8 | 152.0 | . 13.2 ' |
| 1959-60 | 16.3 | 16.1 | 144.2 | . 21 |
| 1960-61 | 16.2 | 22.3 | 139.2 | 20.2 |
| 1961-62 | 16.9 | 19.2 | 137.9 | 21.8 |
| 1963-64 | $\mathbf{N}\mathbf{A}$ | - | NA | _ '. |
| 1964-65 | NA | - | NA | - ** |
| 1965-66 | 31 | 22.7 | D1 | - |
| 1966-67 | 31 | 31.4 | 246 | 17.2 |
| 1967-68 | 35.7 | 19•4 | 320 | 34•5 |
| 1969-70 | 45.6 | 35.6 | D 1 | - |
| 1970-71 | 43.2 | 14.6 | 336 | 31 |
| 1974 - 75 | 56.6 | 18.1 | 626 | .27.9 |
| 1975-76 | 51.9 | 10.1 | D1 | - |
| 1976-77 | 68.8 | 15.7 | ND | - |
| Ac Co Var | . , , | 18.9 | | 23•4 |
| Co Var Co V | Jar 🖇 | 39•5 | | 28.8 |
| | | , | | |

Table - 12

Variability of Staw Frices Tamil Nadu - 1957-1977

| | | y/cart 00 kg | Millet/ | |
|------------------|--------|-----------------|---------|-------|
| | Av | Co-var | Av | Co-va |
| 1957-58 | D1 | - | D1 | - |
| 1958 - 59 | 22.55 | 40.9 | D1 | - |
| 1959-60 | 24.2 | 33•3 | D1 | - |
| 1960-61 | 24.1 | 59.6 | 21.3 | 59.8 |
| 1961-62 | - 25.6 | 47.5 | 21.3 | 53•4 |
| 1963 -64 | NA | - | NA | - |
| 1964-65 | NA | ·. <u>-</u> | NA | - |
| 1965-66 | 28.2 | 13.8 | D1 | 4 |
| 1966-67 | 32.7 | 24.8 | 36.8 | 40.9 |
| 1967-68 | 33.2 | 29•4 | 28.7 | 40.1 |
| 1969 -7 0 | 44.6 | 36.7 | D1 | - |
| 1970-71 | 35.2 | 34•5 | D1 | - |
| 1974 - 75 | 77.4 | 37•9 | 48.9 | 37.1 |
| 1975-76 | D1 | · | D1 | - |
| 1976-77 | ND | · _ · | ND | - |
| Av Co Var | | 35.8 | | 46.3 |
| Co Var Co Var | | 32.9 | | 18.9 |

Table 13

| | Hice | Cholam | Cumbu | | 1 | | Sugarcane gur | Cingelly | Groundnut | Cotton |
|---------------------------------------|------|----------|--------|-------|----------|---------|------------------|----------|-----------------|---------------------------------------|
| | | | | | | | | | | *, , |
| Maximum percentag difference | je | e . | · . | | | | | | | |
| 1957-78 | 4.7 | 20.2 | 6.7 | 26.7 | 11.8 | 13 | 15 | 31 | 34 | 51 |
| 1976-77 | 28.4 | 26.2 | 19.5 | 25.0 | 63.6 | 75 | 38 | 22 | 4.4 | 8.4 |
| | | | | | | | | | (31) 1975-76 | |
| | | | | | | rie - s | | | | · · · · · · · · · · · · · · · · · · · |
| · · · · · · · · · · · · · · · · · · · | Gree | engram | Horseg | ram B | lackgram | Onion | Chillie | Redgram | | |
| Maximum percenta difference | ige | * * : | • | | | •. • | | | ,- | |
| 1957 - 58 | 6 | ó.2 | 4•4 | | 14 | 61 | 8 | 5 | | |
| 1976-77 | 27 | 7•3 | 28.5 | | 3 | 12 | 18 | , | | |

7. Notes on the Statistical Sources for Tables

Tables 1, 2, 3

Source: Table VIA labelled "Farm Harvest Prices for Selected Commodities in years 1958-9 to 1975-6" of the <u>Tamil Nadu</u> <u>Annual Season and Crop Reports</u> after which the Table is labelled "Average Annual Producers' prices".

These prices are compiled from weekly open market prices collected from various centres in each District by the Department of Statistics, except in those years with compulsory rationing in which case they are State administered prices. They are averaged over time for each District to give the basic data reported in the Season and Crop Report.

The comprehensiveness of this data varies according to the geographical extent of the crop within the State. Prices are quoted in Rs./quintal unless otherwise specified. Groundnut is quoted with shell from 1957 to 1971 after which it is quoted as shelled kernel. A note on P.98 of the Report for 1974-5 states that the loss of weight in decortication amounts to 25 per cent so kernel prices have been modified accordingly to indicate pod prices after 1974-5. The common base for these price indices is the weighted average for each crop for 1957-8 as given in the relevant Annual Season and Crop Report. The indices are thus comparable between districts.

Table 4

Sources of this data are Tables VB on "Annual Outturn" (tonnes) of produce in the Tamil Nadu Annual and Season Crop Report, multiplied by the District specific prices for these products (per tonne) from Table VI B described above. The value per hectare is calculated from the total value of produce per district as computed by outturn multiplied by district level farm harvest prices divided by data for total cropped area for each district given in Table II in the Report. Agricultural Production is taken as comprising all crops in each district whose production exceeds 1000 tonnes (generally 13 crops in N. Arcot, 16 in Coimbatore, 12 in Thanjavur and 15 in Tirunelveli).

Ragi is missing in 1960-1. Rice is missing in 1966-7, 1974-5 and 1975-6 when paddy prices have been multiplied by a conversion factor of 1.5. The index has to exclude crops such as tapicca, tamarind and sweet potato where the Season and Crop Report gives data on outturn per district (from 1967 for tapicca, and 1974-5 for the other two) but has omitted to give any price information at all. The index also excludes orchard and plantation crops, vegetables and animals and animal products. Although the index is not totally comprehensive, it includes the vast majority of income earning commodities, is systematic across districts and thus may be used for meaningful comparisons.

Tobacco prices are cured leaf. Sugar cane is quoted as gur, consistent with price information and 0.124 the weight of cane. Groundnut prices have been modified as for Tables 1-3. Cotton production is given as 177.8 Kg bales of lint (later varying between 170 and 180 Kg) but prices are given as kapas. The conversion factor 1.66 has been used (bales of lint x 3 to give kapas equivalent divided by 1.8 to convert to tonnes.)

The base is the "normal outturn": the three year average preceding 1958-9 at 1958 prices. Indices have been constructed separately for each district (A) on district specific bases and (B) using the 4-district average which permits comparison. The base values from which the absolute values may be reconstructed using the indices are appended to the tables.

Table 5

Comprehensive details of non agricultural wholesale prices for Tamil Nadu are only available from 1975. All India indices were recomputed using 1958 as a base from H.L. Chandok Wholesale Price Statistics 1947-78 1978, Ec. and Sc. Research Foundation, New Delhi : Vol 1 Annual Averages.

The general source of this raw data was that used for the Economic Adviser's official index number of wholesale prices, begun in 1942 with 1939 as base and with 4 revisions of commodities, classifications and weighting subsequently. The weighting (bracketed under the commodity in Table 5) represents the contribution by value of turnover to total turnover according to the latest revision. Food articles and manufactured products are thus general sub totals of bundles of commodities. The basic data is similar to that used in the season and crop reports consisting of the returns to the Directorate of Economics and Statistics of data collected throughout each State for free market prices by the Department of Statistics (excepting at times, in places and for commodities when State administered controlled prices had total monopolies).

Tables 6 and 7

Source: Fort St. George Gazettes Monthly Statistical Supplements 1957-1976 giving the Reviews of the Rural Price Index Numbers for Several Centres in Madras (Tamil Nadu) State. The disaggregated components of the index comprise food, lighting, clothing and miscellaneous. For Table 6 the middle two have been used to represent basic non agricultural goods purchased in rural areas. Lighting comprises a bottle of kerosene oil and a box of matches. Clothing is a 7 cubit dhoti, a 4 cubit upper cloth and a 8 yard saree. These are the most basic consumer goods for agricultural labour and although their purchases may have changed but little since the 1950s when the last consumer survey under this data series was carried, such goods poorly represent the range of purchases of commodity producers participating in a market economy. Villages were selected to represent whole districts

in the original computation of the cost of living index. Puliyur is in North Arcot and Agaram in South Arcot. These two districts are taken as one region for the cost of living index. Eriodu and Gokilapuram are in Madurai District but they are taken as representative of the cost of living in Madurai, Ramnad and Tirunelveli. Kinathukadavu stands for Salem as well as for Coimbatore District where it is located. The original indices were calculated with weights and initial prices specific and unique to each place and therefore are not comparable.

The base, originally July 35 - June 36 has been recomputed for the calendar year 1958 (The official base was changed in 1977 to 1970-1. The use of these diagnostic villages was abandoned in 1979 and replaced with monthly data on the cost of living with commodities and weightings according to contemporary needs of agricultural labour in 28 villages (14 wet and 14 dry)).

Table 7

The general consumer price index was obtained from the files of the Department of Statistics and recomputed so that 1958 is the base. The source of data for this index is as for Table 6. The food component consists of rice (weight 35 to 36) coarse grains (weight 26 to 39) grams and dhal (weight 0.01 to 0.08) condiments (weight 0.11 to 0.15) jaggery and oils (weight 0.13 to 0.15).

The miscellaneous component consists of 100 betel leaves, 1 thooku of betel nut, 100 cloths washed by dhobi, and one shave. In the construction of this index the weights of each item in each component is based on surveys specific to each village. The weights of each component are as follows:

| | Puliyur | Agaram | Thulaya- nathan | Kinathu- kadavu | Eriodu | Gokila- puram |
|----------|---------|--------|--------------------|--------------------|--------|------------------|
| Food | 78 | 78 | 80 | 83 | 78 | 78 |
| Lighting | .3 | 3 | 2 | 2 | 2 | 2 |
| Clothing | 12 | 12 | 11 | 11 | 13 | 13 |
| Misc | 7 | 7 | 7 | 4 | 7 | 7 |

Thus these indexes can be used to describe change in any one settlement through time but cannot be used to compare costs across space.

Tables 8 - 12

Source: Table VIB in the <u>Season and Crop Reports</u> for the various years. Unweighted averages and co-efficients of variation have been calculated for every instance where the number of districts for which prices are quoted exceeds 5. The total number of districts increased from 12 to 14 during the period we consider.

Table 13

See details of Tables 1 - 3
