

PRIA II: WORK IN PROGRESS

CHANGES IN THE AGRARIAN ECONOMY OF TAMIL NADU, 1980-2005

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INTRODUCTION

Since 1979/80, when the study on production relations in agriculture (hereafter PRIA 1) was conducted by a team of scholars (including the present writer), there have been very significant changes in the Indian economy and society, in terms of structures, policies and outcomes.¹ First of all, the economy has grown rapidly as measured by, for instance, the gross domestic product (GDP). The GDP, which had grown at about 3% per annum compound between the early 1950s and the late 1970s, has been growing since at around 6% per annum. While the growth had been led by loan-financed government spending in the 1980s, it has been largely private sector-led since 1991, under policies of liberalization, privatization and globalization (LPG). Secondly, the growth has been led, in sectoral terms by the services sector, and has been more modest in industry including manufacturing proper, although manufacturing has done better between 2003 and 2007. Thirdly, the performance of agriculture has been rather poor since the mid 1990s, although this sector grew in terms of output at an exceptionally high rate of 4% per annum compound during the 1980s. The mid term appraisal of the tenth five year plan notes that growth rate of agricultural output declined from 3.2 % per annum between 1980-81 and 1996-97 to less than 1.7% per annum between 1997 and 2002. Since then, the agricultural sector, if anything, has performed even more poorly, with virtual stagnation, for instance, in the output of food grains, even as the GDP has grown at much higher rates of the order of 7 to 8%.²

There have been conflicting assessments of the impact of the growth processes of the Indian economy on aspects of deprivation such as poverty, unemployment and inequality. Available data from the National Sample Survey (NSS) show very slow growth of employment, especially rural, between 1993-94 and 1999-2000. Though the rate of growth of employment has picked up since, it is still less over the period 1993/94 to 2004/05 as compared to the period 1983 to 1993/94. The data from the latest 61st round of the NSS also show a decline in the share of casual labour and a rise in that of self employment, as well as a decline in real wages between 1999-2000 and 2004-05. There have been a very large number of farmers' suicides in several states during the period since the mid 1990s, pointing to severe rural distress and a crisis of farming. While the proportion of rural households below the official poverty line has declined substantially according to the official figures, these figures have been contested by a number of scholars, on both

¹ The study results are reported in V. B. Athreya, G. Djurfeldt and S. Lindberg (1990), *Barriers Broken*, Sage Publications

² There is a huge literature on India's economic performance under the reforms begun in 1991. For a critical overview of the impact of neoliberal reforms on the Indian economy, see C. P. Chandrasekhar and Jayati Ghosh (2005), *The Market that Failed*, LeftWord, New Delhi. For a more recent analysis of agricultural growth under the reforms, see C. P. Chandrasekhar (2007), 'The Progress of "Reform" and the Retrogression of Agriculture', accessed at www.macrosan.com

statistical and other grounds. The rise in the unemployment rates for all categories-rural and urban, male and female-as well as the widespread reports of rural distress present a picture at variance with these figures. Critics of neoliberal reforms under way since 1991 argue that these have been highly deflationary and have depressed demand, especially in rural areas.³

Agriculture is seen as having been affected negatively by the reforms for a number of reasons:

- Sharp rise in input costs, as a result of subsidy cuts, as the government seeks to rein in the fiscal deficit to win the confidence of finance capital, especially from abroad
- Fall in output prices because of opening up the country to agricultural imports by removing quantitative controls and lowering import tariffs
- Financial liberalization leading to a reduction in institutional credit for agriculture and a rise in rates of interest for farm loans
- Sharp decline in rural development expenditure of governments causing collapse of rural demand
- Imposition of a targeted public distribution system for food grain and essential commodities, hurting the rural poor
- Reduction in public investment as well as publicly funded R and D in agriculture and collapse of extension services

While the growth of the economy at the national level is thus seen to be sectorally skewed, with services, and more recently, manufacturing, doing well in terms of output growth, but agriculture doing badly, the picture varies considerably across states. The state of Tamil Nadu is seen as one of the better performing states, both in terms of economic growth and in terms of human development. The growth pattern in the state since 1980 has not been too dissimilar to that of the country as a whole. The share of agriculture in SDP has declined very sharply, especially in the 1990s, while that of services has increased considerably. The performance of industry has been mixed. However, as in the case of India as a whole, output growth in industry and services has not been matched by employment growth, with the result that the state has seen a rising rate of unemployment. In this chapter, we review the major trends in the economy of the state, with a particular focus on the agrarian and rural economy. It will also look at human development.

Specifically, this essay will examine:

- the overall growth and changes in the composition of the state domestic product (SDP) of Tamil Nadu between 1980 and 2005
- the growth in area, output and yield of important crops; changes in irrigation, agricultural machinery and techniques; policies towards agriculture in terms of provision of credit, extension services, input subsidies and price support
- the trends in employment and unemployment
- the role of the state government, especially in relation to the rural economy

³ See, especially, Utsa Patnaik (2007), 'Neoliberalism and Rural Poverty in India', *Economic and Political Weekly*, July 28, 2007, pp. 3132-3150.

TAMIL NADU ECONOMY: GROWTH AND CHANGE

Population and Employment

We begin our discussion by looking at the broad demographic changes in the State of Tamil Nadu since 1980. Table 1 below presents some basic data on the population of the State. While the State's population increased by nearly 50 % between 1961 and 1981, the rate of growth of population has been declining since the time of PRIA 1. It grew by a little less than 30 % between 1981 and 2001.

Table 1 *Some Basic Data on Total Population*

Sl. No	Census Year	Population In Millions		Literacy Rate %		Proportion of SC&ST		Rate of Urbanisation		Sex Ratio Females per 1000 males	
		TN	India	TN	India	TN	India	TN	India	TN	India
1	1961	33.69	439.2	31.4	28.3	18.8	21.5	26.1	18.0	992	941
2	1971	41.2	548.2	39.5	34.5	18.5	21.5	30.2	19.9	978	930
3	1981	48.41	683.3	46.8	43.6	19.4	23.5	32.9	23.3	977	934
4	1991	55.86	846.3	62.7	52.2	20.2	24.3	34.7	25.7	974	927
5	2001	62.41	1027	73.5	65.4	20.0	N.P	44.0	27.8	987	933

Source: *Tamil Nadu- An Economic Appraisal 2005-06*, Government of Tamil Nadu.

The urban population has grown much faster than the rural over this period as well. While the rate of urbanization—defined as the percentage of the population resident in urban areas to total—rose rather slowly between 1981 and 1991, it has grown rather more rapidly during the decade of 1991-2001, rising from 34.7 % in 1991 to 44 % in 2001. The State is now the most urbanized one in the country, overtaking Maharashtra, but the increase is due in part to the inclusion of more than 600 town *panchayats*, many of which are rather rural in character. There has been a remarkable rise in the rate of literacy in the State—defined as the percentage of literate persons in the population aged 7 years and above— from 46.8 % in 1981 to 73.5 % ((Male 82.3, Female 64.4 %) in 2001, a rate of increase broadly in line with the national picture.⁴ The proportion of children (aged 5-14 years), attending school, from agricultural labour households in rural Tamil Nadu rose from 47.6 % in 1987-88 to 85 % in 1999-2000 for males. The corresponding increase for female children was even more impressive, from 32.4 % to 84 %.⁵

⁴ Of course, there is a persistent gender gap in literacy rates, especially in rural areas. Rural literacy rates are also lower than urban ones by a good margin in most districts of the State, as is the case all over the country. The only exception in Tamil Nadu (excluding the wholly urban district of Chennai) is Kanyakumari district, which is also the district with the highest literacy rate. Here, the literacy rates in 2001 were: urban male-91.12 %; urban female-85.51 %; rural male-88.95; rural female-83.44 %. The district with the lowest literacy rate overall was Dharmapuri with 61.39 %. The districts of Karur and Tiruchirapalli, where our sample villages are located, had literacy rates in 2001 of 68.74 % and 79.16 % respectively.

⁵ Praveen Jha (2006), 'Some Aspects of the Well-Being of India's Agricultural Labour in the Context of Contemporary Agrarian Crisis' (Mimeo)

The State has had a consistently higher population sex ratio, defined as females per 1000 males, than the country as a whole, reflecting the somewhat better relative status of women in the State compared to many of the populous north Indian States. It must be noted, however, that in recent decades, the State has had a declining female-to-male ratio in the age group of 0-6 years, reflecting, among other things, persistent gender inequality arising from patriarchy and a population policy exclusively focused on limiting family size without addressing gender inequality.⁶

Table 2 shows the labour force participation rates from NSS data for Tamil Nadu for the years 1983, 1987-88, 1993-94, 1999-2000 and 2004-05. The rates have remained fairly stable throughout the period from 1983 to 2004-05, with the only noticeable aspect being a small decline in rural female participation rates between 1983 and 1987-88, perhaps reflecting improved school enrolment among girls in the younger age groups.

Table 2 *Labour force Participation Rates- Usual Status for Tamil Nadu and All- India (in parentheses), 1983 to 2004-2005, per cent*

Sl.No	Year	Rural		Urban	
		Male	Female	Male	Female
1	1983	69.9	52	65.3	25.3
2	1987-88	60.4 (54.9)	47.7 (33.1)	59.5 (53.4)	24.3 (16.2)
3	1993-94	61.3 (56.1)	48.1 (33)	60.1 (54.3)	24.7 (16.5)
4	1999-2000	61 (54)	48.4 (30.2)	58.5 (54.2)	22.7 (14.7)
5	2004-2005	60.4	46.7	61.1	25.3

Source: 1) NSSO, various rounds
2) *Tamil Nadu Development Report*, published by Academic Foundation in 2005, under arrangement with the Planning Commission, Government of India

The picture that the Censuses of 1981, 1991 and 2001 provide is shown in Table 3. For rural males, the figures closely match the data from the NSS rounds. In the case of females, the Census data show significantly lower participation rates, although the difference seems to be coming down. In the case of urban males also, the differences between NSS estimates and the nearest period census figures have been coming down.

Table 3 *Number of Workers and Workforce Participation Rate for Tamil Nadu*

Year	Rural				Urban			
	Male		Female		Male		Female	
	Number#	Rate#	Number	Rate	Number	Rate	Number	Rate

⁶ For a detailed analysis of the phenomenon of declining female-to-male ratios in the age group 0-6 years in India, see V. B. Athreya, 'Gender and Survival during the Decade of Reforms', *Indian Economic Journal*, March 2003.

1981	9.67	59.2	5.41	33.6	4.18	51.3	0.93	12
1991	10.82	58.3	7.01	38.5	5.14	52.8	1.22	13.1
2001	10.4	59.4	7.18	41.3	7.76	56.4	2.48	18.4

The numbers are in millions and rates are in percentage

Source: *Tamil Nadu Development Report*, cited in Table 2

What is interesting is that the census figures for 2001 show that there is an absolute decrease in the number of male workers in rural areas between 1991 and 2001, and only a marginal increase in the number of female workers, the overall result being a decline in the total number of rural workers in 2001 over 1991. This reflects a shift of the labour force from rural to urban areas in the case of male workers, but possibly no significant shift for female workers.

Table 4 presents worker-participation ratios by NSS data over successive rounds for Tamil Nadu, with data for India also shown. The larger difference between labour force participation rates and worker participation rates in 1999-2000 as compared to 1993-94, especially for rural females, is consistent with the all-India picture of very slow growth of rural employment across the country between these two years. Table 5 brings out the sharp rise in the proportion of marginal workers across all categories-rural, urban, male and female-between 1991 and 2001, for both Tamil Nadu and India, and thus provides further support for the hypothesis of a slower rate of growth of employment during the 1990s.

Table 4 *Worker Participation Ratios of Tamil Nadu and All-India (in parentheses) for Various Years (%)*

Sl. No	Year	Rural		Urban	
		Males	Females	Males	Females
Usual Status (PS + SS)					
1	1983	68.2 (63.5)	51.4 (39.3)	60.8 (58.1)	23.7 (17.3)
2	1987-88	58.7 (53.9)	46.1 (32.3)	55.8 (50.6)	22.7 (15.2)
3	1993-94	60.2 (55.3)	47.8 (32.8)	57.5 (52.1)	23 (15.5)
4	1999-2000	59.4 (53.1)	43 (29.9)	56.3 (51.8)	21.5 (13.9)

Source: 1) National Sample Survey, various rounds

2) *Tamil Nadu Development Report*, cited in Table 2

Table 5 *Marginal Workers in Tamil Nadu and All-India (in parantheses): 1991 and 2001, per cent*

Sl. No	Year	Rural		Urban		Total
		Males	Females	Males	Females	
1	1991	0.4 (0.7)	6.5 (8.1)	0.2 (0.4)	1.3 (1)	2.5 (3.4)
2	2001	7.6 (7.9)	11.2 (14.2)	2.7 (2.4)	3.5 (3.4)	6.6 (8.7)

Source: Same as in Table 4

Table 6 shows the changes in the distribution of the State's working population by status of employment across the full sample rounds of the NSS from 1993-94 to 2004-05. The proportion of self-employed workers declined between 1993-94 and 1999-2000 for males and females in rural areas and for males alone in urban areas. Between 1999-2000 and 2004-05, however, this trend got reversed and the proportion self-employed rose for *all* categories-rural and urban, male and female-in Tamil Nadu as well as at the all India level. However, from a longer term perspective, there has been a gradual trend of decline in the proportion of the workforce that is self-employed and an increase in the wage-employed. Thus in 1972-73, 42.2 % of rural male workers and 39 % of rural female workers were self-employed. These figures declined to 31.6 % and 36.5 % respectively in 1983. The corresponding all-India figures were higher in all cases, being 55 % and 54.7 % in 1972-73 and 49.3 % and 56.4 % in 1983 for males and females respectively. The fact that the proportion of the rural workforce that is self-employed is far smaller for Tamil Nadu than it is for India as a whole is not surprising since the State has one of the highest proportions of labour households to all rural households in the country. Thus, in 1993-94, 547 out of 1000 rural households were labour households in the State as against 383 for India as a whole. These figures rose respectively to 590 and 402 in 1999-2000. Although these figures declined to 521 and 377 respectively for Tamil Nadu and India in 2004-05, Tamil Nadu clearly retained its more proletarian character.

It is not possible to conclude from the relative rise in the proportion of self-employed between 1999-2000 and 2004-05 that there is a reversal of the long-term trend of increase in the proportion of wage-employed in the labour force. The NSS data for 2004-05 also show that the earnings of the self-employed are generally very low. What we may be seeing is a process where the non-availability of wage employment drives workers from households with little or no assets to seek to make a living by engaging in low productivity self-employment, given the absence of social security for the unemployed.

Table 6 Per cent distribution of workers by employment status, Tamil Nadu and All India (in parantheses), 1993-94, 1999-2000 and 2004-05

Sl. No	Category	Males		Females	
		1993-1994	1999- 2004-2000 2005	1993-94	1999- 2004-2000 2005
<i>Rural</i>					
1	Self-Employed	41.4 (57.7)	35.8 39.9 (55)	41.9 (58.6)	38 46.1 (57.3)
2	Regular Employed	12.5 (8.5)	15.3 13.4 (8.8)	5.2 (2.7)	6.9 6.6 (3.1)
3	Casual Labourers	46.1 (33.8)	48.9 46.7 (36.2)	52.9 (38.7)	55.1 47.3 (39.6)
<i>Urban</i>					
4	Self-Employed	34.5 (41.7)	33 38.0 (41.5)	34.5 (44.8)	39.4 44.3 (45.3)
5	Regular Employed	40.3 (42.2)	45.4 45.2 (41.7)	40.3 (29.2)	40.7 41.2 (33.3)
6	Casual Labourers	25.2 (16.1)	21.6 16.7 (16.8)	25.2 (26)	19.9 14.5 (21.4)

Source: National Sample Survey, various rounds.

Although the economy of Tamil Nadu has done well in terms of income growth and development of industry in comparison with many other states over the decades since 1970, it has faced the problem of persistent high levels of unemployment and under-employment. Between 1972-73 and 1983, the rate of unemployment for rural males doubled in the case of Tamil Nadu while the figure for India rose only marginally. The rate of unemployment in the State was more than twice the rate for the country for both males and females in rural areas in 1983, while in urban areas, the rates for Tamil Nadu were higher than those for the country by more than 40 %. Table 7 provides data on the daily status unemployment rates for the state and the country for the reference years 1987-88, 1993-94 and 1999-2000 from NSS data. For rural males, the rate for the state continues to be around twice that for the country. In the case of rural females also, the state's unemployment rates are substantially higher than for the country. In fact, except for the case of urban females in 1999-2000, the state reports a higher rate of unemployment than the country. This partly reflects the fact that the state has a much higher degree of landlessness and a much higher proportion of labour households than most other states, factors that result in greater *open* unemployment on account of a greater degree of proletarianization. Interestingly, when one looks at the rate of unemployment for the educated, the state does better. In 1999-2000, the state reports lower rate of unemployment for this category than the country in all categories except that of rural males.

Table 7 *Unemployment Rates for Tamil Nadu and All-India (in parantheses), per cent*

Sl. No	Year	Rural		Urban	
		Males	Females	Males	Females
I	Daily Status				
1	1987-88	8.4 (4.6)	10.7 (6.7)	12.3 (8.8)	13.2 (12)
2	1993-94	12.8 (5.6)	11.3 (5.6)	8.6 (6.7)	12.7 (10.5)
3	1999-2000	14.3 (7.2)	12.3 (7)	9 (7.3)	8.6 (9.4)
II	Among Educated				
4	1993-94	1.8 (1.4)	0.6 (0.8)	4.3 (4)	6.8 (6.2)
5	1999-2000	9.9 (5.6)	13.5 (14.6)	4.7 (6.2)	13.9 (14.3)

Source: *Tamil Nadu Development Report*, cited in Table 2

Underlying the growing rate of unemployment is a decline in the rate of growth of employment in the sector which accounts for the major share of the working population, namely agriculture and allied activities. Table 8 provides data on broad decadal rates of growth of employment in major sectors across three decades from 1970 to 2000. While the rates of growth of employment in the secondary and tertiary sectors showed significant improvement in the 1990s as compared to the 1980s, the situation was quite the reverse in respect of the primary sector.

Table 8 *Growth rates of employment in Tamil Nadu*

Sl. No	Sector	Growth Rate, per cent per annum		
		1971-80	1981-90	1991-2000
1	Agriculture & Allied Activities	2.45	1.48	0.30
2	Mining & Quarrying	0.19	2.87	10.28
i	Primary Sector (1+2)	2.44	1.49	0.34
3	Manufacturing	3.92	1	6.89
4	Construction	3.78	3.73	19.65
ii	Secondary Sector (3+4)	3.90	1.31	8.57
5	Trade & Commerce	3.37	2.10	9.24
6	Transport, Storage & Communication	1.74	2.43	2.22
7	Other Services	0.79	4.70	2.33
iii	Tertiary Sector (5+6+7)	1.97	3.29	5.04
	Total (i+ii+iii)	2.48	1.83	2.71

Source: Same as in Table 6

The rate of growth of employment in this sector had already declined in the 1980s as compared to the 1970s, but the decline in the 1990s was dramatic. Quite possibly, the rate of growth of employment in crop husbandry per se was negative, as it certainly was for agriculture as a whole for rural males.

Overall, the employment situation, especially in rural areas, seems to have deteriorated in the period since PRIA I.

Economic Growth

In the period since PRIA I, the rate of growth of the Indian economy as measured by the gross domestic product (GDP) has been distinctly higher than in the period 1950 to 1980. Table 9 presents data on the sectoral rates of growth of the Indian economy thus measured at different intervals of time since the mid 1960s.

Table 9 Annual Trend Rates of Growth of GDP, Indian Economy

	Total	Manufacturing	Mining& Quarrying	Electricity	Foodgrain	Non- Food	Agriculture
1965-66 to79-80	4.7	3.8	6.9	6.2	3.0	2.6	2.9
1965-66 to74-75	4.3	2.7	9.4	3.8	3.4	3.0	3.2
1975-76 to84-85	4.9	4.3	6.6	7.3	2.5	2.9	2.6
1985-86 to94-95	6.2	6.2	4.2	8.3	3.1	5.7	4.1
1994-95 to04-05	5.0	6.4	2.9	5.1	0.7	-0.5	0.6

Source: Adapted from **C.P.Chandrasekhar**, *'The Progress of "Reform" and the Retrogression of Agriculture'*, accessed at www.macrosan.com

It can be seen that the best growth performance of the agricultural sector was during the period from the mid 1980s to mid 1990s. By contrast the following decadal period has seen virtual stagnation in agricultural GDP. This is also reflected in the virtual stagnation in the output of foodgrain during this period, implying an emerging crisis of food security.

How did the Tamil Nadu economy fare over the period since 1980? Table 10 presents data on the rate of growth of the net domestic product of the state in comparison with that of India's NDP over successive Plan periods.

Table 10 *Growth Rate at 1980-81 Prices, Tamil Nadu (NSDP) and India (GDP), percent per year*

Sl. No	Plan Period	Tamil Nadu	India
1	1 st Plan (1951-56)	4.45	3.6
2	2 nd Plan (1956-61)	2.90	4.0
3	3 rd Plan (1961-66)	1.58	2.2
4	4 th Plan (1969-74)	3.40	3.3
5	5 th Plan (1974-79)	7.00	5.2
6	6 th Plan (1980-85)	6.01	5.2
7	7 th Plan (1985-90)	4.94	5.8
8	8 th Plan (1992-97)	5.97	6.8
9	9 th Plan (1997-2002)	5.46*	5.34*

* at 1993-94 prices

Source: *Tamil Nadu Human Development Report*, Government of Tamil Nadu, 2003.

It is clear that the state of Tamil Nadu has, like the country as a whole, experienced a higher growth rate of output since 1980 as compared to the period 1950-80. It is also evident that the rate of growth of the state has been lower than that of India over the period since 1980.

How has the state fared in comparison with other major states? Table 11 provides data on the rate of growth of GSDP for major states during the reform period 1993-94 to 2004-05

Table 11 *Annual Average Rates of Growth of GSDP and Per Capita Income (at 1993-94 prices), Select States, 1993-94 to 2004-05*

Sl. No	State	GSDP Growth Rate % p.a.	Per Capita Income Growth Rate, % p.a.	Per Capita Income in Rupees at 1993-94 prices, 1993-94	Per Capita Income in Rupees at 1993-94 prices, 2004-05
1	Tamil Nadu	5.52	4.22	8955	13999
2	Andhra Pradesh	5.99	4.81	7416	12352
3	Karnataka	6.96	5.34	7838	13820
4	Kerala	6.22	4.80	7983	13321
5	Gujarat	7.48	5.32	9796	16878
6	Maharashtra	5.77	3.63	12183	17864
7	West Bengal	7.07	5.58	6756	12271
8	Punjab	4.40	2.56	12710	16756
9	Haryana	6.37	3.94	11079	16872

Source: *Tamil Nadu-An Economic Appraisal 2005-06*, Government of Tamil Nadu

In terms of GSDP growth rate, Tamil Nadu does relatively poorly among the better performing major states. However, since its rate of growth of population is lower than that of many other

states, it does somewhat better in terms of per capita income. It is interesting to note that the state of West Bengal posts the highest rate of growth of per capita income and the second highest rate of growth of GDP during the period from 1993-94 and 2004-05.

While the growth rate of GSDP in Tamil Nadu since 1980 has been consistently greater than the rate of growth of population, implying a steadily rising level of per capita income, and the rate of growth of per capita income has been quite impressive since the early 1990s, there have been significant changes in the composition of output which have implications for the well-being of the agrarian population. Table 12 presents data on the sectoral composition of the State's output for select years from 1960-61 to 2005-06.

Table 12 *Sectoral Composition of GSDP, Tamil Nadu, Select Years, Shares in Per Cent*

Sl. No	Sector	1960-61	1970-71	1980-81	1990-91	1999-2000	2005-06
1	Primary	43.51	34.79	25.92	23.42	17.51	13.91
	<i>Of which</i> Agriculture & allied Activities	42.46	32.78	24.56	21.85	15.12	11.59
2	Secondary	20.27	26.88	33.49	33.10	29.42	28.48
	<i>Of which</i> Registered Manufacturing	6.85	9.68	14.95	16.22	13.03	13.22
	Unregistered manufacturing	7.91	10.16	12.47	7.95	6.86	6.89
	Electricity, Gas and Water Supply	0.17	0.31	0.43	2.03	2.81	1.66
	Tertiary	36.22	38.33	40.59	43.48	53.06	57.61
	<i>Of which</i> Trade, Hotels & Restaurants	16.55	15.81	16.87	16.51	15.40	16.36
	Transport	2.69	4.43	4.75	4.68	6.82	6.97
	Communications	0.35	0.64	0.95	0.93	1.94	3.92
	Banking & Insurance	1.56	2.11	3.25	5.77	7.21	8.03
	Real Estate & Business Services	3.96	4.02	4.99	5.53	6.63	8.01
	Public Administration	0.97	1.66	3.56	4.26	5.40	5.04

Source: Adapted from Table No 6, p 10 of *Tamil Nadu-An Economic Appraisal 2005-06*, Government of Tamil Nadu

The first thing to note is that even by 1970-71, the primary sector had ceased to be the largest contributor to the state's GSDP, and its place had been taken over by the tertiary sector. The kind of diversification in the structure of output in terms of sectoral composition that Tamil Nadu

exhibited as early as the mid-late 1960s did not occur in the Indian economy as a whole until much later. Interestingly, the pace of diversification has continued, and the state is now among the most diversified states in terms of the structure of its output.

It can be seen that the share of agriculture and allied activities in GSDP has come down from 24.56 % in 1980-81 around the time of PRIA I to just 11.59 % in 2005-06, a normal agricultural year. Interestingly, the share of industry as well as manufacturing has declined over the same period. The share of the tertiary sector, on the other hand, has increased sharply from 40.59 % in 1980-81 to 57.61 % in 2005-06. This is similar to developments at the national level and in many other States. Table 13 shows the comparison between Tamil Nadu and select major States in this regard for the recent period.

Table 13 *Sectoral Composition of GSDP, Selected States, 1993-94 and 2004-05*, shares in per cent

Sl. No	State	Primary Sector		Secondary Sector		Tertiary Sector	
		1993-94	2004-05	1993-94	2004-05	1993-94	2004-05
1	Andhra Pradesh	35.73	27.18	21.92	22.96	42.35	49.93
2	Karnataka	36.32	19.41	25.40	27.98	38.27	52.61
3	Kerala	30.58	14.71	20.62	20.69	48.80	64.59
4	Tamil Nadu	24.79	13.96	33.69	30.00	41.52	56.04
5	Gujarat	25.46	18.45	35.77	39.08	38.77	42.45
6	Haryana	42.44	28.19	26.24	27.45	31.32	44.35
7	Maharashtra	20.16	11.93	32.77	29.22	47.07	58.85
8	Punjab	46.13	37.07	21.76	23.48	32.10	39.45
9	West Bengal	33.84	23.12	23.02	20.21	43.14	56.67
	India	33.54	22.81	23.69	24.78	42.77	52.41

Source: *Tamil Nadu-An Economic Appraisal, 2005-06*, Government of Tamil Nadu

Only Maharashtra has a lower share of the primary sector in GSDP than Tamil Nadu, in both 1993-94 and 2004-05. With respect to the share of secondary sector in GSDP, though Tamil Nadu remains second to Gujarat in both 1993-94 and 2004-05, the share has declined from 33 % to 30 % while in the case of Gujarat, the share has increased from 35.77 % to 39.08 %.

It is an established feature of modern development experience that the share of the primary sector including agriculture in national income declines as income increases. Development is associated in the popular consciousness with an increasing share of the secondary sector- especially, within this sector, manufacturing- and of the tertiary sector in national income. However, there is an important difference in this regard between the advanced capitalist countries and the 'developing' countries. In the case of the latter, declines in the share of the primary sector in national income have not been accompanied by a corresponding shift of the labour force from the primary sector to other sectors. The experience of India, as well as of Tamil Nadu, bears this out. Table 14 presents data on the sectoral distribution of workers by sex for Tamil Nadu between 1977-78 and 1999-2000 during each of the 'full sample' NSS rounds, while Table 15 presents the same by residence for 1999-2000 and 2004-05.

Table 14 *Sectoral Distribution of Workers by Sex, Tamil Nadu, per cent, 1977-78 to 1999-2000*

Sl. No	Period	Sex	Primary	Secondary	Tertiary
	1977/78	Male	57.4	19.7	22.9
		Female	73.2	16.2	10.6
2	1983	Male	49.2	23.1	27.6
		Female	70.4	16.4	13.1
3	1987/88	Male	46.1	24.6	29.3
		Female	65.8	20.4	13.8
4	1993/94	Male	45.5	23.6	30.8
		Female	67.3	19.0	13.7
5	1999/2000	Male	42.9	25.7	31.4
		Female	62.8	20.7	16.5

Source: National Sample Survey, various rounds

Table 15 *Sectoral Distribution of Workers by Residence, Tamil Nadu, 1999-2000 and 2004-05*

Sector	Rural, 1999-2000	Rural, 2004-2005	Urban, 1999-2000	Urban, 2004-2005	Combined, 1999-2000	Combined, 2004-2005
Primary	68.4	65.7	9.3	8.7	50.3	46.6
Secondary	18.1	19.8	36.2	38.5	23.7	26.0
Tertiary	13.5	14.5	54.5	52.8	26.0	27.4

Source: National Sample Survey, 55th and 61st rounds

Taken together, Tables 14 and 15 bring out the following points:

- Despite the large decline in the share of the primary sector in the GSDP of the State, the share of the primary sector in employment remains stubbornly high, being nearly half even in 2004-05, after a decade and a half of reforms. In rural Tamil Nadu, the share of primary sector employment in the total is close to two-third.
- While the share of the tertiary sector in the GSDP of Tamil Nadu is close to 60 %, its share in employment is less than half of that proportion.
- Over the longer term, there has been some shift of the work force out of the primary sector, with the share of this sector declining, between 1977-78 and 1999-2000, from 57.4 % to 42.9 % for males, and from 73.2 % to 62.8 % for females.

The fact of a persistently high share of the work force in the primary sector, taken together with the fact of extremely slow growth of employment in this sector during the period since 1990-91 suggests a major crisis of livelihoods in the State. The possibility of such a crisis is not inconsistent with pockets of dynamic growth of employment in areas of the State where industry (as in the case of textiles in the Karur-Erode-Tiruppur-Coimbatore belt) or services (as in the case of financial/information technology services in the Chennai metropolitan area). This needs to be

kept in mind when interpreting the results from our field survey in the sample villages. We turn now to changes in the agricultural sector.

Agricultural Economy: Changes, 1980-2005

We begin with an analysis of changes in land use patterns over the period since PRIA I. Table 16 provides data on land use in the state from 1976 to 2005

Table 16 *Percent distribution of geographical area by land use, Tamil Nadu, 1976-2005*

Year	% Net sown area to total geographical area	% area sown more than once to total geographical area	% gross cropped area to total geographical area	% area under current fallows to total geographical area	% area under other fallows to total geographical area	% area under all fallows to total geographical area
1976-77	46.21	8.77	54.98	10.88	4.22	15.10
1977-78	48.43	11.33	59.76	9.22	3.77	12.99
1978 -79	48.08	11.03	59.10	9.75	3.44	13.19
1979 -80	47.93	11.42	59.36	10.04	3.29	13.33
1980-81	41.22	8.53	49.75	16.31	3.53	19.84
1981-82	44.15	8.99	53.14	12.99	3.75	16.74
1982-83	40.45	5.93	46.39	16.05	4.37	20.42
1983-84	44.99	8.46	53.45	11.92	4.22	16.14
1984-85	44.54	10.00	54.55	11.97	4.69	16.66
1985-86	43.82	8.68	52.50	10.86	6.43	17.29
1986-87	42.67	7.42	50.09	11.17	7.21	18.38
1987-88	44.31	7.29	51.60	10.43	6.48	16.91
1988-89	42.59	6.94	49.53	11.87	6.87	18.74
1989-90	43.49	8.91	52.39	10.81	6.52	17.33
1990-91	42.85	8.09	50.94	9.71	8.02	17.73
1991-92	43.98	9.61	53.59	8.15	8.17	16.32
1992-93	44.68	9.63	54.31	7.39	8.08	15.47
1993-94	45.32	9.66	54.98	7.16	7.48	14.64
1994-95	44.52	9.51	54.03	7.70	7.92	15.62
1995-96	41.08	7.12	48.19	9.95	8.69	18.64
1996-97	42.21	7.47	49.68	7.91	9.46	17.37
1997-98	42.94	7.52	50.45	7.57	8.93	16.50
1998-99	43.35	7.64	50.99	7.35	8.55	15.90
1999-00	42.06	8.12	50.18	8.35	8.77	17.12
2000-01	40.82	7.97	48.79	8.73	9.45	18.18
2001-02	39.81	8.11	47.93	7.90	10.85	18.75
2002-03	35.33	4.62	39.96	11.57	11.48	23.05
2003-04	36.00	4.81	40.81	7.32	14.30	21.62
2004-05	39.13	6.08	45.21	5.31	13.08	18.39

Source: *Tamil Nadu Season and Crop Reports*, Various Issues

It can be seen that there has been a gradual reduction in the share of net sown area in the geographical area of the State. Between 1976 and 1980, the share was close to 50 %. It has since then gradually declined to about 38 % in the first five years of the decade of 2001 to 2010. Gross cropped area has declined to around 44 % during the period 2001 to 2005 from a figure close to 58 % during the period 1976 to 1980.

There is a corresponding increase in the share of geographical area under all fallows. The latter has risen from around 13.5 % between 1976 and 1980 to around 20.5 % between 2001 and 2005. Particularly striking is the sharp rise in the area of land fallow for more than one year, classified as 'other fallows'. This category has continuously increased from less than 4 % during 1976-80 to more than 12 % during 2001-2005. This may also reflect a situation where cultivators, especially the smaller ones, *either* lack the wherewithal to undertake crop cultivation on account of difficulties in accessing credit, water or other key inputs *or* find the cost-risk-return structure unviable. There is some evidence at the all-India level that the terms of trade have moved against agriculture from the end of the 1990s.⁷ There is also evidence that institutional credit to agriculture has become both more scarce and more expensive since the early 1990s.⁸ The share of area under non-agricultural uses has also increased from around 13 % in the period 1976-1980 to around 16 % in the period 2001 to 2005, reflecting, in part, increasing urbanization.

An important constraint to agriculture in the state is water availability. There have been significant changes in the irrigation regime in the State, changes which were already under way during PRIA I. These changes, along with several other factors, have led to changes in area sown and irrigation intensity. Table 17 presents quinquennial averages for annual net sown area (NSA), gross cropped area (GCA), cropping intensity (CA) and irrigation intensity (II) for the period 1976 to 2005 for Tamil Nadu.

Table 17 *Net and Gross Area Sown, Cropping Intensity and Irrigation Intensity, Quinquennial Averages, Tamil Nadu, 1976-2005*

Sl. No	1976-80	1980-85	1985-90	1990-95	1995-00	2000-05
Net Area Sown ('000' ha)	6196.19	5598.71	5644.39	5761.69	5501.56	4970.46
Gross Cropped Area ('000' ha)	7579.19	6628.5	6665.77	6972.11	6485.58	5792.15
Cropping Intensity	1.223	1.184	1.181	1.21	1.179	1.164
Net Area Irrigated ('000' ha)	2755.64	2558.55	2433.08	2675.72	2874.29	2556.66
Gross Irrigated Area ('000' ha)	3631.27	3241.46	2989.38	3333.48	3453.88	3018.12
Irrigation Intensity	1.316	1.265	1.228	1.245	1.202	1.177

Source: Same as in Table 16

The data suggest a sharp decline in NSA, GCA and CI as well as II since the end of the 1990s. Over the 25 years since PRIA I, the annual NSA has declined by as much as 1.2 million hectares on an average, and the GCA by an even higher figure of 1.8 million hectares. Even granting the

⁷C.P.Chandrasekhar(2007), *'The Progress of "Reform" and the Retrogression of Agriculture'*, accessed at www.macroscan.com

⁸V.K.Ramachandran and M.Swaminathan (2003), *Agrarian Studies*, Tulika, New Delhi

uncertain quality of the data, these figures are suggestive of major shifts in land use. The decline in area irrigated and in irrigation intensity reflects the maturing of problems in the state's irrigation regime which were noted as being incipient in our earlier work.⁹

Over the years since PRIA I, there have been some shifts in cropping pattern in the state. There has also been a fair amount of technological change, and these have implications for yields. Taken together, the changes in area and yield determine changes in production. Table 18 brings together some data on decadal rates of growth of area, yield and output of major crops in the state from the 1960s to the 1990s.

Overall, the pattern of changes in area under different crops may be summarized as follows. Paddy has more or less retained its share of gross cropped area at approximately one-third. Its yields have increased more or less throughout the period, with some year-to-year fluctuations, but the decade of the 1980s was the one that saw the most rapid growth in paddy yields. Area under millets has come down steadily, both in absolute terms and as a share of NSA/GCA. The major millets in the state are jowar and bajra, followed by ragi. Yields of bajra have risen steadily throughout the period since 1960, while area under the crop has declined consistently. In the net, the output of bajra has been declining throughout. Jowar has seen large declines in area during the 1970s and 1990s, punctuated by marginal increases in the decades of the 1960s and the 1980s. Overall, there has been a substantial decline in area under jowar. Yield of jowar has been generally increasing, the exception being the decade of the 1980s, but this trend in yield has not prevented the overall output of the crop from declining steadily from the 1970s onward. Pulses show a very different pattern from other food grain crops. Except for a marginal decline in yield in the 1960s, area, yield and output of pulses have grown throughout the four decades from 1960 to 2000. Sugarcane, a high value crop, also shows an increase in all three variables—area, yield and output—throughout the four decades, except for a marginal decline in yield in the 1960s.

Of the remaining two important crops in the state, cotton shows considerable fluctuation in respect of area and output, the overall result being a decline in area and increase in output. Underlying this pattern is a consistent increase in yield, though the yield seems to have leveled off during the 1990s. Groundnut shows declines in yield and output through the 1960s and 1970s, but all three variables show increase during the next two decades. The overall result is a significant rise in output of groundnut.

What this picture of changes in area, yield and output in respect of major crops suggests is that agriculture in the state has generally been dynamic, though with considerable fluctuations. It is also clear that there has been a general rise in crop yields and some degree of technological dynamism. Within this overall assessment, one must of course also point out the considerable degree of instability in respect of area, yield and output of practically all major crops, which becomes readily apparent if one examines annual data. This instability is at least in part due to the dependence of agriculture in the state on uncertain rainfall and an unstable irrigation regime.

⁹ V.B.Athreya et. al., Op cit

Table 18 *Annual Compound Growth Rate of Area (A) Production (P) and Yield (Y) of Major Crops in Tamil Nadu*

Sl. No	Crop	Variable	1960s	1970s	1980s	1990s
1	Rice	A	2.66	2.32	-2.32	1.34
		Y	1.40	4.39	5.27	2.22
		P	4.07	6.81	3.06	3.66
2	Jowar	A	0.10	-3.86	0.11	-3.59
		Y	2.27	1.40	-1.77	2.66
		P	2.38	-2.47	-1.61	-0.92
3	Bajra	A	-7.75	-6.76	-5.99	-4.71
		Y	6.75	5	4.70	2.03
		P	-1.01	-1.79	-1.30	-2.65
4	Pulses	A	4.07	2	5.29	1.40
		Y	-0.34	3.50	4.01	3
		P	3.73	5.80	9.30	4.40
5	Food Grains	A	1.96	2.25	-3.69	-0.88
		Y	2.67	3.40	1.28	6.01
		P	4.13	5.63	-2.43	6.70
6	Sugarcane	A	9.30	1.69	7.30	4.20
		Y	-0.51	4.30	0.70	2.02
		P	8.34	5.59	7.75	6.25
7	Groundnut	A	1.69	1.93	7.25	1.60
		Y	-3.10	-3.60	2.50	2.70
		P	-1.41	-2.95	10.01	3.03
8	Cotton	A	-3.79	-1.56	5.35	-2.22
		Y	2.40	3.80	13	0.35
		P	-1.30	2.93	19.18	-2.09

Source: *Tamil Nadu Development Report*, cited in Table 2

The key crop in the State is paddy, which accounts for around one-third of the gross cropped area. Table 19 provides some data on the performance of the state in paddy cultivation.

The yield of paddy has been rising steadily through the 1980s and 1990s, but there has been a setback in the most recent period. Nevertheless, the paddy yield in the state ranks fourth among major States in 2005-06, with Punjab, Haryana and Andhra Pradesh ahead of it. Underlying this increase in paddy yield over the years are improved methods of cultivation and more intensive use of inputs such as chemical fertilizers as well as a certain extent of mechanization. Taking all cereals together, the State shows a significant increase in yield between 1976-80 and 2000-2005. The same is the case with pulses. These points are brought out by the data in Table 20.

Table 19 *Area, Production and Productivity of Paddy, Quinquennial Averages, Tamil Nadu, 1976-2005*

Sl. No	Period	Annual Average of Paddy		
		Area (000 hectares)	Production (000 tonnes)	Productivity (kg/hectare)
1	1976-80 (4 years)	2682.22	5326.35	1980
2	1980-85	2342.20	4720.11	2005
3	1985-90	2003.69	5616.74	2818
4	1990-95	2138.56	6698.59	3134
5	1995-2000	2164.67	6732.49	3099
6	2000-05	1785.18	5162.29	2821

Source: *Tamil Nadu Season and Crop Reports, Various Issues*

Table 20 *Area, Production and Productivity of Cereal and Pulses, Quinquennial Averages, Tamil Nadu 1976-2005*

Sl. No		1976-80	1980-85	1985-90	1990-95	1995-2000	2000-05
Cereals	Area ('000 ha)	4564.8	3865.61	3380.28	3190.22	2953.68	2560.99
	Production ('000 tonnes)	6435.06	6015.01	7145.21	7957.36	7677.76	6004.55
	Productivity kg/ha	1410	1549	2125	2494	2593	2306
Pulses	Area ('000 ha)	587.38	563.41	670.46	758.13	615.98	612.68
	Production ('000 tonnes)	196.69	204.74	290.32	330.02	261.02	240.27
	Productivity kg/ha	334.5	362.8	436.2	447	423	389.4
Food Grains (Cereals + Pulses)	Area ('000 ha)	5152.19	4429.02	4050.74	3948.36	3569.66	3173.68
	Production ('000 tonnes)	6631.75	6219.76	7435.53	8287.38	7938.78	6244.81
	Productivity kg/ha	1288	1398	1841	2100	2217	1935

Source: Same as in Table 19

The trend in yields in the case of cereals, pulses and foodgrains is very similar to what we observed in the case of paddy. Yields increase steadily through the 1980s and 1990s, but decline over the period 2000-2005. What should be a matter of concern is that the annual output of both paddy and cereals as a whole, averaged over 2000-2005, is in fact smaller than that for the period 1976-1980. Not surprisingly, the state is crucially dependent on supplies of rice from the central pool through the Food Corporation of India, for its food security.

The yields of some important crops of Tamil Nadu for selected years are shown in Table 21. Again, the general trend is one of increase in yields over time, though not without fluctuations, with a setback in the most recent period.

Table 21 *Yields of important crops in Tamil Nadu, per hectare, Select Years*

Crop	Unit	1960-61	1970-71	1980-81	1990-91	1999-2000	2005-06
Rice	Rice in kg	1414	1974	1865	3116	3482	2541
Jowar	Grain in kg	816	730	790	1010	983	732
Bajra	Grain in kg	616	660	840	1080	1525	1157
Pulses	Grain in kg	265	271	324	425	420	337
Sugarcane	Tonnes of cane	80	77	101.5	100.8	108	105
Groundnut	Nuts in kg	1217	920	860	1220	1541	1775
Cotton	Lint in kg	167	200	200	290	325	260

Source: *Tamil Nadu-An Economic Appraisal*, various issues, and *Tamil Nadu Season and Crop Report*, 2005-06

We have already noted that water is a major constraint to agricultural expansion in the state. We shall now very briefly look at changes in the irrigation regime in the State. The relevant data is presented in Table 22.

Table 22 *Annual Average of Net Area Irrigated (NIA), lakh hectares, by different sources, Tamil Nadu, 1950 to 2006*

Irrigation Source	1950-51 to 1959-60	1960-61 to 1969-70	1970-71 to 1979-80	1980-81 to 1989-90	1990-91 to 1999-2000	2005-06
Canals	7.92	8.83	8.94	8.23	8.24	8.00
Tanks	7.76	9.12	8.49	9.16	6.21	5.75
Wells	4.97	6.45	9.18	10.38	13.13	15.37
Other Sources	0.46	0.39	0.35	0.19	0.17	0.18
Total NIA	21.11	24.79	26.96	27.96	27.75	29.10
<i>Gross Irrigated Area</i>	<i>27.3</i>	<i>32.66</i>	<i>35.22</i>	<i>31.15</i>	<i>33.94</i>	<i>33.97</i>

Source: *Tamil Nadu-An Economic Appraisal*, 2005-06

The most important change in the irrigation regime is the decline in the share of tank irrigation and the dramatic increase in the share of area irrigated by wells. While the share of total NIA accounted for by tanks has been steadily declining, from around 37 % in the 1950s to around 22 % by the 1990s, that accounted for by wells has increased from around 24 % in the 1950s to around 47 % by the 1990s. The share of NIA irrigated by canals has declined, but (unlike tanks) more modestly, from around 39 % in the 1950s to around 30 % in the 1990s. More recently, well irrigation has gained further ground. In 2005-06, the share of well irrigation in NIA was 53.1 %, of which 12.0 % came from tube wells and the rest from open wells. While the gross irrigated area since the beginning of the 1990s has been somewhat less than in the period before 1980, the quality of irrigation has also changed, with the farmers having access to wells being able to use water more effectively. But in so far as a very large proportion of wells are utilized with the help

of electrically energized pumpsets, the availability of power acts as a constraint to irrigation management. The real crisis in irrigation is the decline of tank irrigation, which affects small and marginal farmers severely. These sections are known to depend to a greater extent on tank irrigation whereas the well-to-do farmers tend to have better access to both canal and well irrigation.¹⁰

It can be seen from the foregoing that there has been a fair amount of technological change in the agrarian economy of Tamil Nadu. The impact of this has of course been uneven across districts, crops and classes. Paddy has been the favoured crop among foodgrains, while sugarcane and groundnut have prospered among the non-food crops. There is an emerging set of horticultural crops, but these still account for a small proportion of both total crop area and the value of agricultural output. A substantial proportion of the area cultivated in the state remains unirrigated. In 2005-06, the share of gross irrigated area to gross cropped area was 56.3 %, with GIA to GCA being 62.1 % for food crops, 61.7 % for food grain crops and 40.7 % for non-food crops. The two crops which are almost entirely irrigated are paddy (93 %) and sugar cane (99 %).¹¹ The share of irrigated area to total also varies considerably across districts. In four districts-Tiruvarur, Nagappattinam, Thanjavur (together comprising the earlier undivided Thanjavur district) and Tiruvallur-more than 80 % of cropped area is irrigated. At the other end, in the four districts of Nilgiris, Krishnagiri, Thoothukudi and Perambalur, less than one-third of cropped area is irrigated.¹²

Technological changes in crop agriculture in the state have taken the form mainly of greater use of high yielding varieties, chemical fertilizers and pesticides and electric and diesel pumpsets, and in more recent periods, mechanization of several agricultural operations.¹³ We have already seen that there has been no substantial increase in area irrigated since the 1960s but that the share of different sources, and with it, the quality of irrigation had changed substantially. These changes, as noted already, tend to favour the more substantial farmers. But the small and marginal farmers have also adopted the new technologies, though with less success.¹⁴ On balance, it has to be said that there has been no major technological breakthrough in agriculture in Tamil Nadu since the green revolution of the late 1960s.¹⁵ Not surprisingly, the performance of agriculture in the state in terms of growth in yield and output levels has been rather modest.¹⁶

¹⁰ K.Nagaraj (2002), *Tamil Nadu Economy* (Mimeo)

¹¹ In our study area, banana forms the third highly irrigated crop.

¹² Of course, there are considerable variations in the share of area irrigated even within a district.

¹³ The number of pumpsets per thousand hectares of gross cropped area is the highest in Tamil Nadu in the entire country, and that by a large margin. In 1987, for instance, the number of pumpsets per thousand hectares of gross cropped area was 194 in the state as against 160 for Punjab, 120 for Haryana and only 64 for India as a whole. (K. Nagaraj, Op. cit.). Mechanization of ploughing and harvesting are more recent developments. Currently, a machine for transplanting has come into use.

¹⁴ In general, small farmers in India have less access to mechanized technologies. In 2003, among farmers possessing 10 hectares or more of land, there were 38 tractors per 100 households; the corresponding figures were 18 among those possessing between 4 and 10 hectares and only one among those possessing upto one hectare.(NSS Report 497)

¹⁵ Around 2001, Tamil Nadu had 9.62 tractors per hectare of cropped area (11.32 per hectare of cultivated area or NSA) as against 49.15 for Punjab, 36.54 for Haryana, 23.39 for Uttar Pradesh, 21.50 for Gujarat and 15.62 for Rajasthan. The average for India was 13.71. However, when one considers the fact that Tamil Nadu had only 3.3 % of its holdings in the 4 hectare plus category whereas the corresponding figures for Punjab, Rajasthan, Haryana and

The assessment provided by one scholar on the nature of agricultural modernization in Tamil Nadu seems pertinent in this context:

In the agricultural sector, modernisation, growth and recovery have come about basically through internal structural changes – as in the irrigation regime – or through the processes of ‘reorderings’ and diversifications, with accumulation of productive forces playing only a secondary role. Sustaining, or accelerating, the growth process would require tapping of surpluses, which largely accrue to rich farmers, for productive investments in agriculture, through appropriate taxation measures and through land reforms – and these policies do not seem to be anywhere on the agenda of the state governments.¹⁷

State Policies and the rural economy

Although agriculture is a State government subject under the Indian constitution, it is a fact that central policies and schemes play a crucial role. Since 1991, the reform policies followed by the Central government, and more or less imposed on the state governments both through political processes and through the use of the Finance Commission awards, have had serious consequences for agriculture in the country as a whole. The fiscal crisis of the state governments has intensified due to the policies of central expenditure compression and diminished devolution of resources from the Centre, and one consequence of this has been a decline in the rural development expenditure of State governments during the reform period. This is shown in Table 23

The reduction in government expenditures on rural development has been an important factor underlying the slowing down of agricultural growth. Agricultural output as a whole has grown rather slowly in the period of reforms as compared to the preceding periods. In the 1980s, agricultural output grew at about 4% per annum, but the rate of growth came down to less than 2% in the 1990s. The Mid-Term Appraisal of the 10th Five Year Plan (2002-2007) {MTA} notes that the rate of growth of GDP in agriculture and allied sectors was only 1.9 per cent per annum between 1996-97 and 2001-02. Subsequently, it had fallen further to just 1% per annum during the first three years of the tenth plan, 2002-2005. As the MTA points out, “..per capita agricultural GDP shows no significant upward trend after 1996-97, only fluctuations.” (MTA, p.187) The MTA also tells us that the rate of growth of crop output was only 1.1 % per annum since 1996-97, down from 3.1% between 1980 and 1997. Input use in agriculture decelerated from over 2.5% per annum during 1980-1997 to about 2% thereafter. Also, “During the period 1997-2002,

Gujarat are 29.4 %, 29.6 %, 17.9 % and 22.4 % respectively, its level of tractor use can be considered impressive. Remarkably, Uttar Pradesh, with only 2.9 % of its farms with size exceeding 4 hectares, had a higher level of tractorization than Gujarat and Tamilnadu.

¹⁶ Tractor use has been increasing rapidly in Tamil Nadu in recent years. However, since a significant proportion of tractor users are small farmers who find it more cost effective to hire tractors for use rather than invest large amounts of capital to buy them, increased tractor use is not adequately captured by a statistic like tractors per unit area cultivated. Even so, the number of tractors per hectare of cultivated area rose from 11.32 in 2001 to 24 in 2005-06.

¹⁷ K.Nagaraj, Op. cit.,

agricultural prices declined relative to prices not only of inputs but also non-food consumer goods. As a result, purchasing power of agricultural incomes...decelerated more than GDP at constant prices. Real farm incomes ...not only show no per capita growth after 1997, but also exhibit increased variability.” (MTA, p.190). Growth of agriculture has been very poor since 2000. This is especially the case with food grains. Table 24 provides data on area, production and yield of food grains during the period since 1991. Since 1999-2000 when food grain output reached the figure of 210 million tonnes, there has been no trend increase. Yield has also stagnated at around 1700 Kg per hectare.¹⁸

Table 23 *Development expenditure of all State governments, as % of total budget, 1990-91 to 2002-03*

Year	Share in total budget
1990-91	22.2
1991-92	20.6
1992-93	22.2
1993-94	21.7
1994-95	19.3
1995-96	18.8
1996-97	18
1997-98	18
1998-99	17.8
1999-00	16.6
2000-01	15.4
2001-02	14.5
2002-03 RE	13.8

Source: Adapted from Pravin Jha (2006), *Some Aspects of the Well-Being of India's Agricultural Labour in the Context of Contemporary Agrarian Crisis*, Accessed at www.macroskan.com.

¹⁸ While we have cited figures on output and yield to make the point about the crisis in agriculture, it must be emphasized that the crisis is not merely one of production. Even in the case of the two crops-rice and wheat- for which a system of government procurement exists, the procurement prices in the last four or five years have not kept pace with increases in costs of production. Not surprisingly, the 59th round of the National Sample Survey, pertaining to the period 2003 January to December, revealed that 40 % of farmers surveyed want to give up farming. The survey also reported that 96.2 % of farmers had incurred monthly expenditures in excess of their incomes. Only 3.8 % of farmers, owning more than 4 hectares of land, reported a surplus of income over expenditure. Real wage rates for agricultural and rural labourers, which grew at respectable rates in the period from the mid 1980s to the mid 1990s, have stagnated between 1999-2000 and 2004-05. The Planning Commission, in its report to the National Development Council, has officially admitted the existence of a crisis in agriculture.

Table 24 All-India Area, Production and Yield of Foodgrains from 1991-92 to 2006-07, area in million hectares, production in million tones and yield in Kg per hectare)

Year	Area	Production	Yield
1991-92	121.87	168.38	1382
1992-93	123.15	179.48	1457
1993-94	122.75	184.26	1501
1994-95	123.86	191.5	1546
1995-96	121.01	180.42	1491
1996-97	123.58	199.44	1614
1997-98	123.85	192.26	1552
1998-99	125.17	203.61	1627
1999-00	123.1	209.8	1704
2000-01	121.05	196.81	1626
2001-02	122.78	212.85	1734
2002-03	113.86	174.77	1535
2003-04	123.45	213.19	1727
2004-05	120	198.36	1652
2005-06	121.6	208.6	1715
2006-07*	124.07	211.78	1707

*Advance Estimates as on 04.04.2007

Source: Adapted from *Agricultural Statistics at a Glance 2006-07*, Ministry of Agriculture.

Thus, the stagnation in output and yield of important crops observed in Tamil Nadu in the period since 2000 is not an isolated instance. It is similar to the national picture. Successive governments in the state have also not sought to address the issue of production and productivity seriously, but have cited the fiscal crisis as a reason for their inability to do so. However, in the case of Tamil Nadu, it is noteworthy that the crisis of stagnation has not manifested itself in the form of farmers' suicides on any significant scale nor have there been starvation deaths of the kind witnessed in some other regions of the country during the drought of 2002-04. One reason for this has been the presence of a system of social welfare, which includes pensions of various kinds for the relevant vulnerable groups (old age, destitutes, widows, agricultural labourers and so on), a functioning public distribution system with an extensive network of fair price shops reaching almost all habitations and providing grain at subsidised prices, a mid day meal scheme covering all school children from class 1 to 10, provision of supplementary nutrition to children in the age group of 2 to 5 years through the Integrated Child Development Services (ICDS) scheme, a functioning preventive and curative health system, with over 8500 health sub centres, more than 1400 primary health centres and over 300 hospitals in the in the public sector and provision of maternity and other benefits to a sizeable number of women in need. Successive state governments have found it difficult to roll back these welfare provisions, though attempts to do so have been made in the reforms period.

SUMMING UP

What does one make of all the changes in the rural economy of Tamil Nadu that have occurred since 1980, of which a sketchy picture has been provided in this chapter? At one level, one can say that the rural and the agrarian economy have continued to exhibit some dynamism, at least until the late 1990s. Despite the fact that the area irrigated has not seen any major increase, and that there have been no technological breakthroughs, the yields of crops have risen since 1980, and the value of agricultural output has grown. Levels of education and health have improved considerably in rural areas, although there is some apprehension that these may have been partially eroded in the last decade of economic reforms. Real wages of rural and agricultural labour have risen, though there has also been a rise in the degree of landlessness. While non-agricultural employment has increased, it has not kept pace with the rise in the share of non-agricultural output in SDP, nor has it kept pace with the growth of the labour force. There is possibly greater rural unemployment than was the case in 1980, but there are also trends of out-migration to productive employment and consequent flow of remittances to households, though data on these are hard to come by. But there is no denying the fact of fairly stagnant yields and low returns to crop agriculture in general in the State, arising from changes in terms of trade, impact of import competition on prices of produce, rise in input costs and difficulties in and costs of accessing institutional credit.¹⁹

In *Barriers Broken*, the point was made that the problematic had changed, and that the state played a key role in the agricultural dynamism that had been observed in our study area. The changes since the late 1990s, which have led to stagnation and crisis in agriculture in the wake of a reduction in the proactive role of the state vis-à-vis agricultural transformation, seem to bear out our assessment that the dynamism we had observed was crucially dependent on the State's role.

¹⁹ The issues pertaining to credit are dealt with in another chapter.