LOCAL CAPITALISM AND THE FOODGRAINS ECONOMY IN NORTHERN TAMIL NADU, 1973-2010

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2010

Submitted to Three Essays Press, New Delhi

Abstract

In a neo-liberal era, what is the character of local capital? Is that a relevant concept any more? How are the resources that are extracted from agriculture through the system of markets being invested? In an era of state retreat from agriculture and from direct economic controls, what happens to state control over a basic wage good? From 1973 - 93, the economic base of the market town of Arni in Northern Tamil Nadu has been being studied every ten years. In 1997 all manifestations of its collective life were surveyed. In the 21st century it has become impossible to study a town of over one lakh in its entirety so more focussed research has been conducted on it and its urban-rural relations. This book takes the paddy-rice sector through nearly forty years from 1973 to 2010. It attempts to answer the questions above - and also to ask whether the concentrated and centralised growth of the food-grains supply chain accords to theories of clusters or of industrial districts - or neither. Local capitalism is the form taken by capital all over the world. It may therefore interest development administrators, practitioners and scholars working on the political economy and development of other sectors in other regions of India and elsewhere.

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LOCAL CAPITALISM AND THE FOODGRAINS ECONOMY IN NORTHERN TAMIL NADU, 1973-2010

1. INTRODUCTION

1.2 Development and local capitalism

This long essay is about the development of local agro-capitalism in and around the market town of Arni in northern Tamil Nadu in the final quarter of the 20th century, with an update to 2010. It explores agro-capitalism through the production of paddy and the post harvest system which converts it to rice. The paddy-rice sector is a useful keyhole through which to peer in order to analyse the character of local capitalism. Prior to this gaze, the general question why local capitalism should be important to our understanding of development is addressed, because the rest of the essay depends on the answer.

Development requires the creation and accumulation of surplus and its productive re-investment. The process is disruptive and difficult. Not only does it require political and economic competences on the part of capitalists, but also an enabling state.

Mushtaq Khan has laid out the roles the state must play.[i] Only the state can guarantee private property rights over its territory. The state must ensure the transformation and growth of agriculture, industry and services, manage the costs of these two processes and protect both the processes and their victims. It must create incentives and collect tax revenue and use both to promote growth and social stability. It must create and manage political institutions and develop the capacity to enforce the rules it allows or creates. It must also buy off opposition to this complicated process of transformation.[ii] The provision of welfare and human development is as relevant to political stability as it is to productive surplus creation. The state must constantly manoeuvre; its power and capacity will be continually tested and contested.

Bangalore's IT sector is an excellent example of what the state must, and can, do. While the central and local states have been far from autonomously 'developmental', since 1986 the industry has required them to be 'enabling' and they have invested massively in high tech infrastructure, energy, basic utilities, and credit for IT parks.[iii] But Bangalore's development trajectory, its IT industrial district and its state support are all exceptional.

Development is hindered when the state does not perform these demanding roles. Two thirds of India's economy is 'informal' and unregulated by the state. (About half is reckoned to be black.) Despite a voluminous literature dating back to the early 1970s, many theorists persist in regarding the informal economy as the temporary abode of surplus labour and therefore residual.[iv] But it never has been and never will be residual. On the contrary, it is the real economy: actually existing Indian capitalism. Informal activity is also embedded in the corporate sector and inside the Indian state. A trail of political decisions has been laid to enable this to happen.[v] But quite how the Indian state then develops the informal economy, out of its own direct reach, in which over 90 per cent of 'livelihoods' are deployed, what kind of project it has for the capitalism it has allowed to be created, are questions to which relatively little attention has been paid.

While the process of transition to capitalism is famously uneven, [vi] the era of transition is well and truly over. But the economy has not differentiated itself into the polar social classes of factory capitalism [vii] and the on-going dynamic transformations of the capitalist economy are also spatially uneven. Colin Leys put it like this: ‘Capitalism does not develop every region similarly. There are poles of growth and margins of decay; areas of high mass consumption and other areas that are mere pools of surplus labour, famine and anarchy.’ (1994, pp15-16). While this African insight is highly relevant to India, India’s non-metropolitan economic growth has always been spatially clustered. Growth is focussed on ‘central’ places providing services according to the population size thresholds of the settlement system – India’s has been notably hollowed-out and regionally varied.[viii] But growth is also concentrated in artisan clusters, crammed with petty commodity producers, and in caste-based, occupationally specialised sectors. Now commodified and integrated into the capitalist economy, they often operate - unlike Bangalore’s IT sector - with low-tech capital and high levels of labour exploitation.[ix] While some commentators conclude that the Indian capitalist class has consolidated itself over time,[x] others find that regional differences, fracture zones and contentions within this class have been being accentuated. [xi] Leys concludes: ‘What is needed is a theory of the role of the capitalist class in determining what kind of outcome occurs.’ (1994). There is no escaping the need for theory and empirical research devoted to local level development.

Over the last 35 years, northern Tamil Nadu, south of the Chennai-Bangalore corridor, has seen uneven development over time, space and society:- dramatic agricultural transformation which then stagnated, and crises of water extraction and the collective maintenance of irrigation infrastructure. Early into the green revolution, local capitalism was energised through urban growth poles but these harboured predatory elements. To a small extent this was contemporary primitive accumulation at work – currently associated with the state's acutely contested alienation of agricultural land for industrial uses and rents.[xii] In part these predatory elements came from local capitalism using (disguised) interest on pre-harvest money advances and consumption credit to claw resources from rural producers and wage workers. These resources were then circulated within the local town and invested unproductively.[xiii] Parasitic capitalism co-existed with generative, productive forms. Since agricultural growth was being driven by yield-enhancing, market-mediated technology, the process could be sustained for some considerable period. It did not prevent technical change but it certainly affected the distribution of gains from it. It is an empirical question whether the parasitic forms of capitalism could be sustained indefinitely, or were resisted and transcended, and if so how.

Development theory has fought remarkably shy of examining the character of local capitalism and has avoided dealing with it in many ways.[xiv] Subfields have proliferated which do not address the issue. Early post-colonial research euphemised capitalists as 'business elites' and tried to ascertain the obstacles to entrepreneurship.[xv] Dependency theory drew attention to the national comprador bourgeoisie and the political alignments needed to wrench this class from exporting primary commodities to nurturing domestic industrial production. Economic history has focussed on the institutional and political preconditions for developmental states to fast-track national (export-led) industrialisation. Anthropologists have made important contributions to our understanding of the bazaar and petty commodity exchange,[xvi] of status groups associated with commerce and their paradoxical combinations of wealth and asceticism, and of the way outsiders' status gives them freedom from social constraints on capital accumulation.[xvii] For sure, scholars of the agrarian question have focussed on the transitions to agrarian capitalism in agriculture, but, with exceptions, they have steered clear of the rest of the wider pre- and post-harvest agrarian economy; and the related literature on rural development has depoliticised the distinctive institutions of local capitalism via concepts such as 'livelihoods' and 'the non farm economy'.[xviii] The social structure of accumulation school has started to periodise and theorise the matrix of social institutions which stabilises capitalist accumulation, but its empirical project is at a high level of aggregation and is US-biased.[xix] More recently local capitalism has been stylised as links in (global) 'value chains', but this approach avoids 'surplus value' in favour of 'value added'. The value chain school focuses on the ways these chains compete against vertically-integrated capital, on the creation and protection of 'rents' in individual links, and on the ways in which supply is shaped not so much by suppliers but rather by buyers powerful enough to affect final demand as well as production and supplies.[xx] Sectors are wrenched from their regional contexts – or rather it is assumed that production on contract, together with the clusters and industrial districts that are at the base of global value chains, *are* the regional economy - missing out all their local multipliers. Value chains are then evaluated in relation to the model of flexible specialisation that characterises the most advanced stages of post-Fordist global capitalism.[xxi] Business and management studies have weighed in with 'bottom of the pyramid' literature on the relations of corporate capital to low-income, rural retail markets. [xxii] Turning full circle over the course of a generation they revisit the extension of banking and finance to the 'micro' sector .[xxiii]

But when the C-word is air-brushed out of research on, and understanding of, markets, the particular dynamics, institutions and logic that make the capitalist mode of production unique are ignored as well – and analytical and policy follies result.

In this reluctance to grasp the nettle and this refusal to recognise the salience of local capitalism as 'development's 'building block'', development theory was only following in the wake of classical social science. [xxiv] Marx took the effectiveness of the capitalist class for granted [xxv] and explored the development of the working class. Weber, in the absence of a causal theory of capitalism,[xxvi] saw that its logic required the market, the state and other spheres of social life to be subordinated to, or at least compatible with, instrumental rationality. Polanyi did not deal with capitalism beyond recognising that generalised instrumental rationality in markets - 'market society' - was dangerous as well as liberating, since markets respond only to effective demand and are unable to respond to need or to any other form of social expression. Society (and the 'instrumental rationality' of the state) had to – and in his view periodically always did - protect itself from the destructive repercussions of socially dis-embedded market exchange.[xxvii]

But the bottom line for a theory of local capitalism is that the capitalist class must *accumulate*. It must appropriate surplus value and invest it productively. For this it must be obliged to compete. *Competition* requires constant changes in production and constant political defence. Under capitalism, competition takes specific forms: non-competition (the defence of market share – advertising and branding are powerful means - to which vast resources are devoted); the competitive intensification of the exploitation of labour; labour-displacing and productivity-enhancing technical change; and relentless commodification (not only of newly invented commodities, but also of nature, the commons, the public sphere, the domestic sphere, and the human body).

Given that development is uneven in space, time, society and process, a theory of local capitalism must also allow for this. At the cost of a severe oversimplification, the obverse of predatory or parasitic development is *progressive* development. Progress is much interrogated, even ridiculed, particularly now that capitalism has reached its environmental limits, but the concept is useful to think with. This is because 'progress' requires changes in the *institutional matrix* in which capitalist economies are embedded in order to obtain increases in productivity, to challenge 'parochial fetters' (archaic social and economic arrangements and forms of regulation), to reduce drudgery, to increase emancipating access to science and culture and to extend instrumental rationality to accounting, taxation, public administration and the sphere of social reproduction. As Frieder Wolf has reminded us, [xxviii] the reproduction of capitalism requires a set of institutions often regarded as 'outside the economy'. They include the family, moral and ideological frameworks, relations of status and identity and institutions of education, health and justice. This is a useful expansion of the institutions identified by Kotz, McDonough and Reich (1994) as constituting the 'social structure of accumulation' (SSA) which defuses the contention generated by capitalist growth. The SSA ensures that the organisation of banking, the material logistics - and the organisation of labour - in production and distribution remain stable. Leys (1996) sees the state as not just the only agency capable of regulating the market in a manner supportive of capitalist accumulation, but also the only agency able to pursue this project in the non-market sphere as well. He encourages us to ask two questions: how far does the instrumental rationality embodied in the state enjoy social consent, and if not very far, then why not? Given what we now know about India's informal – non-state regulated - economy, it is necessary to add: what other social institutions embody 'agency' or relations of authority which are expressed in regulating and in furthering or resisting this process of capitalist accumulation? Now that the indictment of capitalist progress is manifesting itself in global warming, these questions also cannot be avoided in any future analysis of, and response to, the growth dynamic and materiality of local capitalism.

Finally, for the capitalist class to be progressive it must also be *competent*. The collective capacities of a local capitalist class will be reflected in its *scale, technologies, skills, organisational capacity, its social coherence, regulative practices and political power*. Together these attributes and relationships will give local capitalism its character. But what is *local* capitalism?

1.2. A sector: commercial capitalism and 'transitional trade' in foodgrains

Having criticised the value chains school for wrenching a sector from its context, why take a sector? Why take the food-grains sector? Why take the post-harvest system of markets? The answers are that since one cannot study everything food-grains are important in themselves and as an example - and the market is modern society's motto. Along with energy and water, food is among the most basic of human needs. 'Being fed' features on all known lists of basic human capabilities. The commodification of food, under which need is replaced by market demand, carries high stakes. Worldwide it is central to the calculation of inflation. Its distribution and consumption is thought to be crucial to the legitimacy of states (in India for example it is an essential component of the 'Essential Commodities Act'). It is the vehicle for powerful codes of status and social communication. And when most of the population is involved in its production and everyone in its consumption, it is the 'context' from which non-food value chains would be 'wrenched'. It is the basis of local capitalism.

In the 1970s in the smallholding region around the market town of Arni in Northern Tamil Nadu – where there was relatively little landlordism - agrarian differentiation and the transition to capitalism in the initial phase of adoption of High Yielding Varieties were constrained by barriers to the acquisition of land. The main barrier was the reproduction of petty / 'smallholder' production through the two fold process of hiring out wage labour and traders' money advances. While wage-labouring supplemented unviably small landholdings, even permitting petty producers to hire-in labour at times of peak demand, these credit relations secured the marketed surplus of paddy and made petty producers dependent on agro-commercial capital. At the same time both sets of economic relations prevented smallholders from losing their land.[xxix] Competition between trader-moneylenders for paddy supplies, and state-directed, subsidised credit from the nationalised banks, set upper limits to the (disguised) interest rates that could be imposed. These exchange relations in turn enabled traders to exercise an indirect control over rice production. Traders had no interest in legal possession or direct management of the scattered parcels of land they could so easily have taken from small producers.

As early as 1973 the vast majority of traders in the Arni region ran firms with the characteristics of capitalist relations.[xxx] They were subject to the 'iron law' of accumulation and most used wage labour. Pure trade was more profitable than processing, money-lending or production [xxxi]and so the numbers in agro-commerce exploded. Rates of return attracted entrants. For some it was possible to enter this trade using savings from wage work, for others trade was seasonally compatible with production, and for a few, small firms were kept small as a deliberate tactic of pre-emptive development to avoid regulation and taxation. Rich peasants also moved into trade with profits from agriculture. But rags to riches trajectories were rare: the biggest firms had started large. Among the largest, accumulation led to diversification and the forming of family branch-firms rather than to vertical integration or concentration.[xxxii] The profitability of HYV cultivation also saw elite firms reverting to the direct management of rice production instead of rentier land relations. Profit exceeded rent. In the crowded sub-sector of small traders, their dependence on tied credit from trader-moneylenders prevented accumulation, replicating the structure of land relations. The debt-tying of labour was also common in agro-commercial firms. So the merchant's capitalism developing around rice sustained its own contradictions, flourishing in numbers of firms and in rates of return, relatively concentrated in relation to production and yet constrained in terms of accumulation.

The 'iron law of accumulation' was subject to social regulation.[xxxiii] Despite a wide range of castes being able to enter, the locally dominant (backward) agricultural caste also dominated agro-commerce. Scheduled castes were notable by their absence. Though 5 % of firms were registered in the names of women, none were operated by them. Joint families under patriarchal control co-existed with a wider range of forms of management of rice trading firms and land. Protracted apprenticeships with kin often replaced formal schooling and ensured boys had access to information, contacts and sometimes starting capital. They slowly acquired the repertoire of trust and authority which enabled the sector to work on verbal contracts. Selective relations of patronage and debt tying ensured that the relations between profit and wage costs moved inexorably against labour as business size grew - as did the insecurity of casual labour. Female labour was disproportionately poorly paid. By the 1980s the rice mills alone employed a third of all of the town's female wage labour.[xxxiv]

It was in the interest of the state to maintain this drawn-out transition towards the polar relations of capitalism. Its partial interventions in inputs, credit and commodity markets expanded its own privileged labour force. The latter benefited further from a nexus of rents and fraud with the agro-commercial elite in which disciplinary interventions were captured. The state failed to provide employment or adequate food for the stream of landless labourers generated by the process of differentiation in agriculture. So it had a deep - if never explicitly articulated - interest in arrangements which slowed the stream down.

1.3. A town: local capitalism in Arni and its region

Why take a town to study local capitalism? Evidently more than one sector is involved in appropriating rural surplus; a town permits the analysis of rural-urban cycles of production involving labour, money and commodities. It also permits comparisons between sectors.[xxxv] Yet while a town and its hinterland may be studied to shed light on local processes, the point about *local* capitalism is that a more general extrapolation depends on the possibility of comparison. On the basis of a thorough review of literature and an exploration of class formation and non-class economic relations, Elisabetta Basile (2011a) has concluded that India's 'rural capitalism' is characterised in general - and Arni's in particular - by four features - growth, diversification, differentiation and informality - which taken together are distinctive.

Between 1973 and 1993, the number of firms in the town grew dramatically, faster than the growth of the urban population (although the latter is no longer all contained within the political boundaries of the town). The growth of firms in commerce exceeded that in manufacturing; the growth in wholesaling firms exceeded that of commerce in general; and within the category of wholesaling, food, fuel and energy expanded fastest[xxxvi]. Between 1973 and 1993 the gross output of the paddy-rice sector is estimated to have grown by a factor of 17 in real terms.[xxxvii]

Rather than a consolidation of its specialised economic base of rice and silk, the town saw a marked economic diversification in gross output with a proliferation of new goods and services and substitutions for, and up-gradings of, old ones. Investment continued to privilege commerce over production but the dominant portfolios were increasingly adventurous and were crossing economic sectors (e.g. from silk to rice).

While in the rural hinterland the vast mass of the population reproduced itself from small scale (and increasingly unviable) property, the balance in household income was shifting from agricultural production plus wage labour towards wage labour. The reproduction of rural society was increasingly dependent on labour and on small scale production outside agriculture. [xxxviii] By contrast, the rural capitalist class was differentiating itself in diverse and idiosyncratic accumulation trajectories. [xxxix]

Meanwhile in many economic sectors within the town, the capitalist class was being polarised between oligopolies and petty trade/production. Capital increasingly originated inside the town, but a diversity of sources could be tapped, including family savings and loans and finance. Agricultural profits, rents and land sales were dropping out as sources of capital. While assets and control over production were concentrated and centralised, labour and petty production were being decentralised. In the hinterland of the town, labour was increasingly migrating in search of work.

Commercial power found expression in the movement of labour and in the flows of commodities. The immediate hinterland of the town became progressively less important both as the origin and the destination of commodities. By the 1990s, just as long distance trade was being consolidated (with significant volumes moving to and from locations outside the state) so too was the town’s role as a wholesale centre and entrepot.

The non-state-regulated nature of all this informal capitalism made it flexible. Despite the fact that petty production, self-employment and the use of family labour provided many livelihoods, a growing concentration in the ownership of capital expanded the market for casual wage labour.

However, despite the fact that the links between commodity sectors and caste were weakening, and that SCs had been allowed to enter the market as owners of capital (increasing from 4% of firms in 1973 to 11% in 1993), caste remained a regulator of the economy. Especially at the foot of the status system, SCs were restricted to certain sectors and to small firms. Backward castes, on the other hand, had consolidated their hold over the heights of the urban economy, including the prestigious silk sector. The agro-capitalist class was predominantly Backward Caste. Yet although Backward Castes and women had entered state employment, Forward Castes kept hold of public sector jobs as well as the professions. They had entered the paddy and rice sector too.

The local state serviced the business elite defectively and the work force hardly at all. [xl] The local legal profession was socially cosmopolitanising, the social status of law was being reduced and lawyers were being accused of declining professional standards and corruption. Their clientele was increasingly dominated by rural Vanniars and Scheduled Castes in bitter contention over land deals and accusations of crime. By contrast Arni's most senior lawyer reported the business elite as being very reluctant to litigate. In town reported crime was low. 'The business class respects private property and has a strong ethic which enables the economy to be run on oral contracts' he explained.

Compared with other local market towns, Arni lacked infrastructure, financial services and communications.[xli] The Municipality and local elites did not care that public hygiene, the management of waste, garbage and drainage was wretched. The municipal master plan for sewage had not been touched. While a system of public lighting had been installed in the streets, the rice mills had good reason not to trust the public electricity supply and had invested in private diesel generators. The municipality exercised little bureaucratic initiative, tax officials avoided contact with businesses and vice versa. The town curried limited political favour: without an MP, local businessmen found it hard to lobby for infrastructure. As a result, the business elite had started to fill the institutional vacuum. Private bus transport had improved mobility in the surrounding hinterland. Ten private health clinics had been created, many 'vertically integrated' into private drug-stores. In education, while the state maintained well regarded high schools, private primary schools were being established – but there were particularly poor educational facilities for women.

2. THE PADDY-RICE ECONOMY – LOCAL CAPITALISM IN A SECTOR AND A REGION

2.1. Field methods and sources

One reason why local capitalism is so little researched may well be that the Indian state itself collects very little information that would enable its distinctive institutions and dynamics to be explored. The state holds (defective) lists of firms. It has records of weekly prices that are needed for the calculation of the cost of living and consumer price indices, which are politically sensitive. It has data on the quantities of agricultural products marketed (inherited from the era of movement restrictions for essential commodities). This information does not always square with estimates derived from surveys. It has credit plans and urban land use plans. With pleading, data on municipal and commercial taxes may be made available. While helpful, none of this information helps us characterise local capitalism in the way outlined in the introduction. There is no alternative to primary field research. [xlii] Over the decades a range of ways of knowing about the development of capitalism in the region has been developed. They are all listed in Appendix 1 and have been described in detail in the literature referred to there. Much of the quantitative discussion for 1994 is based on a 15% random sample of the paddy-rice sector in Arni town carried out by M.V. Srinivasan in 1994-5 and is supplemented by my field material from the same period. Three rounds of rapid revisits between 2007-10 have brought the story into the 21st century.

2.2. The production of the paddy surplus

India's celebrated agricultural R and D infastructure has not been able to prevent agriculture from being very vulnerable to its physical environment. By the early 1990s in the region around Arni, paddy production faced a crisis of underground water table depletion. Yields stagnated and so did production. Land relations became more polarised and the agricultural population increasingly differentiated. The dual process of land concentration and miniaturisation juxtaposed capitalist elites developing their unique and diverse portfolios with a vast and homogeneous class of petty commodity producers cum labourers. The factor environments in which they all produced paddy grew more persistently unequal in class terms, disadvantaging small producers. Instead of the celebrated inverse size-yield relation putting self-exploiting small producers at a productivity advantage (a relation affirmed in the 1980s by Hazell and Ramasamy, 1991), by the early 1990s there was a strong and positive relation between farm size and productivity. Diversification was the name of the game: the diversification of production in HYV paddy, diversification into other crops which used less water and/or labour, and diversificiation into rural non-agricultural activity – weaving, petty manufacturing, construction, trade, transport and simple services. In the villages, the two social processes of 'voluntarism' and 'distress' were mapped onto investment and wage work respectively: distress and wage work prevailed.[xliii]

The organisation of labour in agriculture had changed. Over two decades the agricultural labour force had increased by 50 % despite some displacement by mechanisation. Casual labour was eating into jobs done earlier by family members. Male landless labour had started to migrate out leaving more and more agricultural work to be done by women. The proportion of permanently attached labourers had not changed, however. It remained constant at about 7 % of the work force. Credit relations also showed an unchanged 'deep' structure, despite the superficial addition to the sources of loans of non-agricultural commercial credit, especially from master weavers. Commercial creditors still exercised control over petty production and market supplies through their money advances.

Over the two decades from 1973, the marketed surplus increased from 33 to 44 % of production; it was dominated by the largest farms, by the 'old', first generation HYVs and by the main production season, watered by the NE Monsoon. By the 1990s, the appropriation of surplus value lay at the heart of production. The vast mass of the population – petty commodity producers-cum-labourers - got more income from wages than from their own production and were drawn into the grain markets they helped to supply not as producers but as net consumers. The marketed surplus thus had two components, one being price-unresponsive due to debt-induced terms and conditions of sales, while the other was price-responsive and supplied by those in a position to speculate. The size of that stream was strongly governed by proximity to the marketplace and the scale of production.[xliv]

Despite advances in the commodification of every aspect of agriculture, the non-instrumental rationalities of identity continued to structure production and trade. In particular caste and gender screened the way assets were accumulated and labour employed in the non-farm economy which meant agriculture also persisted in being stratified by (low) status identity.[xlv] The new flows of productive investment into and out of the villages were also structured by caste so that they formed ‘contraflows of capital’. Backward caste capital surged into town to be invested in trade, in mills and in urban property and land at the same time as Forward caste capital flowed out of town to be invested in rural looms.[xlvi]

As for the state, agriculture was reaping the whirlwind of an era of ‘anti-agricultural policy’ dating from the 1980s, when the wind had already been sown by reduced funds for agricultural research and development, for rural infrastructure and for ‘directed’ rural credit.[xlvii]

2.3. The supply chain for rice – a common cluster, an industrial district?

One distinguishing feature of India’s capitalism is its spatial clustering. Industrial districts are defined as concentrations of firms embedded in local society and in interdependent production processes, and using labour drawn from a local territory in a flexible manner.[xlviii] This kind of clustered capitalism has the capacity to generate competitive advantage and external economies.[xlix] By this definition even if paddy and rice is far from being specialised; even if the paddy-rice sector is not as complex and differentiated as is silk; even if its population of firms is numbered in the hundreds rather than thousands, even if there are other non-specialised clusters in the town (e.g. the gold cluster, Stanley (2003)); and even if there is much other non-specialised non-clustered activity; there too, Arni’s paddy-rice sector satisfies many if not all the conditions of an industrial district. Because of its relatively small size however we will refer to it as a cluster.

From 1973 to 1993 the sector expanded numerically, from 62 to 159 firms (see Appendix 2, Table 1)[l] with a labour force totalling at least 3,650.[li] In addition there were general provisions stores retailing rice, not to mention the armies of loading and unloading coolies and hand cart pullers - although rice mills were internalising those tasks and also cosmopolitanising them in terms of caste.[lii] The 22 firms specially sampled in 1994-5 were process-specialised and functionally niched (App2T2). They fell into three groups according to their operations:
Group 1 (n = 7) consisted of paddy and/or rice wholesalers and commission agents (with some fertiliser dealing and other trade): – *'wholesalers'*;
Group 2 (n = 8) consisted of paddy hulling merchants who hired-in mills to process paddy and rice, but who also might wholesale paddy and/or rice and act as agents : - *'hullers'*;
Group 3 (n = 7) was distinguished by owners of rice mills, some of whom hired their mills out, and/or traded wholesale as well: – *'millers'*.

These groups, though they overlap at the edges, were broadly stratified by size and scale/technology as well as operations (App2T3, T4, see also T10). In 1994, wholesalers' average gross output was estimated at Rs 3,430,000, their assets were estimated at Rs 437,000, and their average workforces at 4.6; hullers' gross output averaged Rs 13,389,000, their assets Rs 1,236,000 and their workforces 46; and millers' gross output was Rs 16,210,000, their assets Rs 7,850,000 with an average workforce estimated variously at 31- 34.[liii] All the groups mixed buying and selling with productive activity. Group one transported goods or arranged transport; group two leased mills to process rice and group three produced rice from paddy (and, in storing both, prevented them from deterioration and extended the market over time, while millers speculated on prices).

The sector used to occupy the centre of the town. But by 1994 nine tenths of the rice mills were strung along two roads on the north east periphery, having migrated out of the congested and polluted central business district - and 70% of wholesalers were also diffusing away from the centre along two roads, with paddy *mundies* and their queues of bullock carts sandwiched between cloth shops (some of which turned out to own such mundies), architects' offices and xerox booths.

The paddy-rice sector was also integrated with its local hinterland. In the early 1970s paddy hulling businesses were rarely to be found in villages but by the 1990s were fast diffusing to them. Although only a small part of the structure of rural 'non-farm economic occupations' (3% of livelihoods), they were were a distinctive investment for village elites. Rice mill labour (most of them Scheduled Caste) was increasingly drawn from villages and the rural bullock cart rental market not only transported the raw material, but also doubled as a market for information and intelligence for moneylending wholesalers and millers.[liv]

2.4. The circuit of capitalist accumulation

2.4.1. The origins of capital

App2 Ts 5 and 6 summarise the economic entry barriers and the origins of starting capital (expressed in constant 1993 Rs so as to factor out the effects of inflation [lv]). The structure of entry barriers did not change significantly during the two decades from 1973 (though the evidence for the old and large firms is poor). While it was possible to rent-in mills without large quantities of initial capital, the ownership of rice mills had always required clambering over what were in local terms high entry barriers.[lvi] The oldest surviving firms remained the largest. The disaggregated sample for 1994 shows that wholesaling and hulling firms had their origins in agricultural and trading profits in the 1980s, while the rice mills dated from much earlier, even before the green revolution in the region.

Drawing on a range of sources of capital the urban cluster is also the site of varied trajectories of primary and expanded accumulation. Agricultural rents and profits have never been of major importance; nor have savings from wage work (the route celebrated by Chari in his research on Tirupur (2004)). Land and property sales have played a role, as have bank loans and loans from informal sources, [lvii] but profits invested from agricultural and non-agricultural trade have supplied most of the starting capital. Liquid and solid resources inherited or transferred on marriage have also been invested in agro-commerce. There has been no dramatic shift in the spatial origins of these starting capitals – most of them were generated within the town itself throughout the period.

We conclude that the paddy-rice sector has been capitalised at several removes from the system of production on which it depends for its supplies. The same cannot be said for its profits - as we now go on to see.

2.4.2. Competition and profit [lviii]

Competition for supplies: In 1994-5, we were told that competition had become fiercer, that the quality of commodities was ever more important in price-formation and profit-making, and that personal reputation based on reliability and competence had replaced ascribed aspects of identity as the lubricants of fast transactions.

Supplies are the vital essence of this cluster. Producers who are untied by debt tote samples around mundies and mills. Repeated contracts nurture trust which reduces transactions costs and may be mutually benefical: one miller said he had over 100 regular suppliers, not tied by pre-harvest loans.

However there are many ways in which capitalists compete by *preventing* competition - some of which are listed in App2T7. Interlocked contracts are used to fuse production and exchange and to the extent that they are mutually agreed, they are mutually reinforcing and serve both to differentiate production relations and control supplies to market. An interlocked contract can also be used to push a producer below what would be his 'reservation utility' (the minimum he would accept in a contract on an un-interlocked market). The commonest example is of a pre-harvest loan specifying the terms and conditions of the post-harvest payment which, either through disguised interest or lower product prices, reduces the return to production below what it would be without interlocking money and commodities. Coercion is also at work in the threat to stop future contracts not only with the more powerful party to the contract in question but also contracts with his friends and with other contacts who control markets essential for the producer. The threat extends to the lender-trader's employees (weigh-men for instance) or brokers who perform services which are essential to a producer's transaction. In App2T7, drawn from Janakarajan's study of agricultural contracts (1996), examples are given not only of interlocked contracts but of triadic ones, locking terms and conditions on three markets (e.g.

{water, money and paddy}; {money, fertiliser and paddy}). There is even a case of a single contract between a producer, a commission agent and a bullock carter [lix] on five markets (transport, information, money, fertiliser and paddy). We were told that about a third of the local supplies to Arni were still tied by such contracts in 1994. Rice mills could also tie supplies by delaying payments and ‘encouraging’ small producers to use the mills as safe deposits for their small savings.

Janakarajan concluded that in the region of Arni an informal coalition of landed water-sellers and money-lending paddy commission agents and wholesalers were both key ‘principals’ in the securing of the marketed surplus and supplies to market, and also key ‘agents’ in the process of surplus extraction for miller-traders. Some analysts regard such contracts as ‘non-market’ exchange because of the roles of force and threat, and even go so far as to call the process of extracting resources in such a way ‘primitive accumulation’. [lx] While this usefully reminds us to be cautious about teleologies of progress, [lxi] this application extends the concept beyond its original meaning. Tied, inter-locked contracts are certainly forms of exchange which persist as an element in modern accumulation.[lxii]

But interlocked contracts were being resisted. Pre-harvest loans were being repaid in cash. Rather than making contracts which forced them to part with paddy at the lowest prices immediately post-harvest, producers would pawn jewels for urgent expenditure and themselves speculate on rising post-harvest prices. The ‘non-contractual’ relationship could be destroyed by tactical action. For example a 6 acre producer could obtain a Rs 1000 per acre interest free loan from the paddy mundi. With production at 3.7 tonnes per acre the agent knew that the commission from the 300 bags the producer would be bound to sell far exceeded what would be recouped on a loan at the prevailing interest rate. The producer also knew this. He borrowed smaller amounts from several agents, to each of whom he sold just enough to cover the repayment of that loan, selling the rest debt-free to a wholesaler or rice mill. We were told that wrenching free from triadic contracts risked heavy reputational penalties among lenders and wholesalers. This would have adverse repercussions if any of the many accidents of risk and uncertainty in crop production forced a producer to return to interlocked contracts. But other developments on the supply side of commercial finance reduced this likelihood. Agents and wholesalers themselves were under competitive pressure to increase the velocity of the turnover of their money. They could do this by diverting crop loans in order to develop long-distance trade and by vertically integrating their business by leasing-in mill capacity for their hulling business.

Supplies and the state: In much of India, the state has been conspicuous by its absence from local informal rice markets. [lxiii] However, these markets were not without a law, the Regulated Agricultural Products (Marketing) Act, based on Smithfield market in London which, having failed there, had been introduced into colonial India during the interwar period. [lxiv] For a half century after Independence all over India, market places and stores have been built under the provisions of this Act, only for their yards to grow weeds, their stores to lie dank and empty and their office ledgers to accumulate dust. Arni's had been a notable exception due to the fact that the region's second crop - rainfed groundnut, far too risky for the kind of informal production credit which tied suppliers of paddy - had long been sold there to a set of absentee traders who fuelled another common cluster processing groundnut oil elsewhere. The

Regulated Market was also being used as a camp for Sri Lankan Tamil refugees.[lxv] However, by the mid 1990s, resistance to the delayed payments and false weighing of Arni's agents and wholesalers had succeeded to the point that unindebted sales were at last being sold in its Regulated Market. Its wholesome rules of contract – closed tender (as tamper-proof as 'open auction') and payment within 24 hours - were not secure from local reinterpretations. While commission agents rushed to intervene to fund longer delays in payment by paddy purchasers, weigh-men did not shy away from demanding excess fees. Nevertheless Regulated Marketing was on the way to being an alternative to decades – if not centuries - of tied trade. [lxvi]

Cost competition and technological innovation: In Arni the securing of large volumes at the cost of lower margins has been a commoner response to increased structural crowding than has cost-reducing technical change. Technical and organisational innovation was incremental rather than revolutionary. Information and its technologies were exceptions, having already been revolutionised before the advent of the internet. Price information was no longer scarce, secret and costly, as it had been in the 1970s and 1980s. The system of special information bulletins, telegrams and information posted from trusted contacts had long been superseded. The easy pace of one-to-one transactions up and down the system, complete with tea and biscuits, had vanished, replaced by information and faster-paced deal making by phone. Banks of phones already enabled the kind of simultaneous multi-tasking made even easier later by the internet. Personalised sales were being replaced by innovations in branding and advertising. But in 1994, business family members were insufficiently educated to use computers for purposes other than status-enhancing websites; and family members were unwilling to entrust computing to skilled, salaried labour.

Nine out of every ten mills had had de-stoners installed. Producers still adulterated their paddy, possibly because the deductions for adulteration that traders imposed on producers made the practice self-fulfilling. Only 10% used the rubber roll shellers and cone polishers that are part of the package of Modern Rice Mill technology. A prototype had originally been imposed in the district in the early 1970s on the basis of misleading evidence and at great subsequent cost to the state. 'Modern' technology did not mill high quality parboiled rice as well as the 'huller' mill, much disparaged by technologists, that was adapted in the 1920s from a coffee grinder by Mr Lewis Grant. Most millers still used batteries of the no1 Lewis Grant huller machines, each capable of double-milling 6 tonnes per 6 hour shift.[lxvii]

In 1994, no mills had automatic conveyor belts or parboiling machinery. Paddy driers fired by husk would in due course displace at least 15 female coolies per drier, but in 1994 just one mill had a drier (fired by oil): for the monsoon, for night shifts, and to rid the miller of the 'bother' of female labour.

Lucrative processing factories for the by-product, bran, had not started to dot the landscape as they had elsewhere in India. Depending on the mill technology, the 6% of paddy outturn which takes the form of bran has an oil content between 6 and 18% which can be extracted through solvent processes to make a raw material for a variety of industrial products such as soap and paint, and one not so long sanitised for edible oil for human consumption. Given that the general use of irrigation pump-sets (powered directly or indirectly by fossil fuel) had done away with much of the local demand for bran as cattle fodder, bran was being removed from the region by an army of agents supplying a commercial oligopoly to satisfy the 24/7 appetite of the nearest factory in Andhra Pradesh. From there, bran oil was exported *inter alia* to Singapore. Rs 10 lakhs were needed to enter the bran wholesale trade, but, once in, 'the returns are like that from paddy and rice milling but on 1/6 the capital' a bran trader rejoiced.

The Exploitation of Labour: Competition puts pressure on costs. Costs can be contained by the use of technologies which guarantee economies of scale [lxviii] but securing the finance to upgrade is a costly process. Once done, securing the supplies needed to operate at the high levels of capacity utilisation at which these scale economies kick in incurs additional (high) transactions costs in an agrarian system dominated by petty production. [lxix] The principal alternative means of containing costs is through the intensified exploitation of labour.

Three means of doing this were being practised in the paddy-rice sector in Arni. The first is through self-exploitation in small firms embodying capital and labour. This is a variant of capitalist production in which petty production and trade are able to compete with firms exploiting wage labour. Through a process which some commentators have celebrated as 'super-efficiency' but which is really super-self-exploitation, production is possible past the point where in marginalist economics the marginal product equals the wage, up to a point where it is just in excess of zero. This takes the practical form of much longer hours of work than those available to wage workers in a competitive labour market. While in 1994 over half the firms in Arni as a whole consisted of self-employed people, only 15% of the 1994 paddy-rice sample were petty producers/traders of this sort. This is about the same proportion as in the rice markets in 1973.[lxx]

The second is through the deployment of family labour. In this case family labour is not only managing the firm and its net returns but also working - for individual returns determined by domestic social status – on activities which elsewhere may be performed by waged or salaried labour. Although a family firm is generally much more wealthy than a labouring household, nothing stops family labour from being more severely exploited than wage labour, particularly at peak seasons. App2T4, summarising the social organisation of production, shows that while on average 1-2 family members were at work in every firm in the paddy-rice sector, 20% of firms had 4-5 family workers.

The third reaction to competitive pressure on costs is by intensifying the exploitation of wage labour. The labour process is segmented by employment status into four categories: family, regular/permanent, casual male and casual female labour.

The terms of labour contracts have been assembled in App 2 T8. Regular or permanent labour is paid monthly (and often indebted). It has to be trusted since it supervises casual labour, does the accounts, maintains the mill machinery and mounts the night watch. Its structure of pay will be differentiated according to the skills and experience needed. As for casual labour, despite the fact that the local rice mills association was said to fix casual labour rates, it is evident that even in the yards, the sheds and stores spread along a few roads of a smallish town there was no casual labour ‘market’, where supply and demand are cleared at a price.[lxxi] Instead there was considerable firm-level variation in pay for the same categories of labour and tasks. Further specification and differentiation was possible in the detail of perqs, transport entitlements, credit-debt entitlements, the variation between daily wages and piece rates, the insertion of elements of payments in kind (in raw and cooked forms), the social identity of labour – its caste, age, gender and migration status - and its incentives to be loyal. This was what made our polite requests to employers for estimates of total labour costs so genuinely difficult to answer.[lxxii]

For parboiling and bagging, the male casual wage wage varied from Rs 20 to Rs 60 per day. The weighted average was Rs 35. For men there was considerable overlap in final estimated annual earnings between the casual wage and the regular 'salaried' labour force. Women, toiling on the drying yard in the hot sun and cleaning the place, took home between Rs 15-35 per day – a weighted average of Rs 22. Rates for agricultural labour also varied considerably by task, gender and village. But the wage rates in the mill were roughly 1.5 times the ploughing rates and 3 times the threshing rates for men. They were roughly 4 times the transplanting rates and 3 times the harvesting rates for women.[lxxiii] The official (but unenforced) minimum wage at that time was Rs 600 per month or about Rs 24/day and the very stingy official poverty line was about Rs 530/m for a household of 4.2, which works out at Rs 21/day.

Hovering just above the Poverty Line, mill workers were therefore a relatively privileged segment of the local wage labour force. It was not surprising then to be repeatedly told by mill owners that the labour force resisted entry by workers unrelated to them by kinship, and that the casual labour force was 'permanent'. A local labour organiser called this state of affairs 'semi-feudal'. [lxxiv] However it was not *neo*-feudal in the sense now being debated by scholars of agrarian India where migrant casual wage labour is being tied and bonded by money advances.[lxxv] Employers in Arni were willing to debt-tie their salaried labour force but not their casual one. Rather than hark back to semi- or neo-feudalism, we conclude that these personalised and specific forms of labour exploitation are routine under conditions of modern capitalism. That wage-labour is 'free' has always been an idea larded with irony.

While we do not have material on the precise structure of contracts of the work force, App2T4 gives details of the labour process over the 20-year period to 1993 and in different parts of the sector in 1994. Over the period 1973-93 when the average real gross output in wholesaling increased by 1.5 and in rice milling by 12, mechanisation enabled the size of the family and permanent labour force to remain constant while casual labour doubled in absolute terms and increased from 60% of the labour force in 1973 to 84% in 1993. [lxxvi] Female casual labour increased from 38% of the total workforce in paddy-rice in 1973 to 45% in 1993. While net returns / residual claims per family member increased from Rs 60k to Rs 547k in constant 1993 Rs over the two decades, the estimated wage costs per wage worker rose from (constant) Rs 3.3k to Rs 5k. [lxxvii] over the same period. The distributive share of labour - the relation between total wages and profits - which is the best summary of the exploitation of labour by capital, fell dramatically from 71% to 15%.

In other words, despite the informally socially controlled and relatively tight 'labour market', the gains from the increase in the real size of the sector - and the gains to the concentration of capital in the rice markets - went disproportionately to capital. Wage labour was being increasingly exploited through a double whammy of casualisation and feminisation (not to mention the debt-tying of regular labour, the crushing of resistance, and the sexual harassment of casual labour). ‘You go and tell Manmohan Singh that the top 10 per cent of employers here are our rulers and the bottom 50% doesn’t have a mat to lie on’, said a labour organiser.

It may be argued that the distributive share reflects oligopoly power rather than competition. To which the response is that capitalist competition involves precisely this kind of ‘competition to suppress competition’ in order to intensify the exploitation of labour.

2.4.3. Returns to production and trade.

It is little short of a miracle of field investigation that there are indicative cost accounts for the sector as a whole for the years 1973, 1983 and 1993, as well as details for the three groups for 1994 (App2 T9, T10). For the sector as a whole over the two decades, average real gross output per firm increased fivefold. Estimated average net returns increased from Rs 66,000 to Rs 930,000 in constant 1993 Rs. The 1994-5 sample survey suggests that the average may be underestimated because at the top end we have case study evidence of *net* returns to milling of around Rs 5,000,000 – confirmed by a miller with an MBA. Meanwhile the sector-wide rate of return [lxxviii] rose from 16% in 1973 to 35% in 1983 and 39% in 1993. From App2 T10, it appears that this doubling in the aggregate rate of return was being driven by the very high returns to rented-in hulling operations, where fixed costs were relatively low compared with those of rice mill ownership.[lxxix]

Nonetheless, the return to rice milling and to the largest capitals had come to exceed that to pure trade. This was opposite to the structure of profit in the region in the 1970s, as well as to the structure of profit in

Coimbatore district in 1980 [lxxx] and in West Bengal in 1981 where returns to trade exceeded those to productive manufacturing.[lxxxi] One may speculate how this could happen. Over and above the possibility of data error, it is possible that rice milling firms had developed a substantial pure mercantile component – indeed the commodity flow accounts, discussed later, *require* this to have been the case. We also know that pure trading enterprises were considerably smaller and, though having lower capital costs than manufacturing firms, may have had higher relative fixed costs (e.g. rent) per unit of output. Over and above this, some rice mills were also hiring out capacity to hulling firms and were deriving income though rent. So rice milling may have developed substantial components of commerce and rent which were contributing to its high returns.

2.4.4. Wealth portfolios

Starting capitals in constant 1993 Rs (App2 T6) can be compared with the estimated present values of firms at that date - enabling trends in the real value of assets to be followed over time (App2 T11). In an average of 8 years, wholesalers quadrupled their assets; in an average of 13 years, hullers increased theirs 14-fold; and over an average of 33 years rice millers increased theirs twenty-fold. Within the sector, control over capital was becoming ever more concentrated. We were told that the top 6 rice mills each handled at least 3,000 tonnes of rice per year, while the ‘average’ mill produced 450 tonnes. Despite the apparent decline in self-employment, the sector was becoming increasingly internally differentiated. Real entry requirements to its apex strata, rice milling and wholesaling, had increased greatly over the two decades.

Even if we assume rising expenditure on consumption, firms will save and invest. They will expand, vertically integrate or diversify. The paddy-rice sector is only a portion of the portfolio of investments made by this part of the local capitalist class. It is notoriously difficult to obtain information on family business investments. Even if they know, businessmen will never give estimates of values, but they will explain descriptively how they are contributing to the building of the local economy. App2 T11 gives schematic information on time trends. The proportion of firms which was *not* diversifying dropped dramatically over the 20-year period; even so the majority of new investments was said to have been made unadventurously within the paddy-rice sector itself.

We do not know much about investment into the sector from businesses in other sectors that were captured in the surveys of the town as a whole. [lxxxii] But the list from the special 1994 sample survey of paddy and rice in App2 T12 tells a different story. Both the wholesaling and rice milling strata had made backward linkages and bought rural agricultural land. They referred to such land as ‘plantations’ – planted to mango, coconut and banana rather than to the demanding staple food-grain. This is a class of investors who can afford the long gestation periods involved in tree crops. Many commission agents had been forced into wholesaling by the rice mills’ capture of brokerage. All groups had invested vigorously in urban land, and other kinds of urban property: a store and a shopping complex (a prototype ‘mall’) as well as houses, all for rent. Other commercial investments were within the sector or closely related to rice processing, including transport and agro-trades. The most prominent and costly investments were in rice mills – a total of 12 mills among 6 firms. All the firms had savings (in forms ranging from hoards of sovereigns, through informal finance companies to stocks and shares). They had entered the machine-age of consumer durables (‘we have them all’; ‘we buy luxuries now’). They had invested in - or were investing in – dowries and private education. One rice miller was investing in a private school; another was managing one, investing his family labour’s time rather than their money.

In other words, this agro-commercial capitalist class was consolidating rentier control over property, finance, commercial and agro-manufacturing capital. While the town as a whole privileged commerce over manufacturing, this sector of the capitalist class was investing heavily in the manufacture of rice. Some were integrating backwards into land and forwards/diagonally into wholesaling. Given that there was a socio-technological limit to vertical integration (the region was still without packaged, puffed rice for middle class breakfasts in the 1990s for example), they multiplied the units of technology. To compensate / substitute privately for poor state provision, local capital was also investing in refining their children’s capabilities through education. This is a significant cultural signpost for a sector which until the recent past had valued tacit knowledge above formal schooling.[lxxxiii]

2.4.5. Class differentiation and inequality within the paddy-rice sector

We can now examine the degree of inequality in wealth within the sector in the 1990s. Across the groups owning capital, App2T13 computes the average net returns per active family worker and those per family member. It varies by a factor of twenty and confirms the differentiation between the functional strata of the rice sector. [lxxxiv]

The complete range of internal variation was considerably greater. In terms of returns, the largest single enterprise was not a rice mill but a hulling-wholesaling enterprise, while the smallest was a self-employed paddy wholesaler. The difference in estimated present value between these two extremes was a factor of 318, while the difference in net returns per family member was similar, at 285. To put this in a comparative perspective, the range in central districts of West Bengal in the early 21st century was a factor of 1:1,600.[lxxxv]

These net returns per working business family member have also been expressed as multiples of the income obtained from regular salaried labour and from male and female casual labour (App2 T13). These estimates have assumed a working year of 300 days, which is likely to be an exaggeration[lxxxvi] – but one which errs in the direction of a high estimate of earnings from wage work. We have no idea of the family sizes supported by this wage labour, nor do we know what other work they, or other members of their families, may have been doing. In the case of regular/permanent labour the take-home returns from rice by their bosses varied from 13 times greater (wholesalers) to 250-300 times greater (in huller-wholesaling and rice milling) than the returns per worker. For male casual labour the multiples of their bosses varied in the same way from 11 to 200-260; and for female casual labour from 23 to factors of 434-533.

There is no overlap between the returns to even the poorest trading firm and those to any category of wage labour – at its lowest the multiple is a factor of 3. There is an overlap between the returns per family member in the smallest firm - Rs 7,000 - which was below all but the estimate for the annual income of a female casual labourer. But, while the smallest firm may well have had family members in other occupations, the female casual labourer may be supposed to have been supporting dependants on her earnings.

The kind of income inequality which is deplored in OECD countries does not begin to approach the relative inequalities which obtained in 1993-4 between owners of paddy-rice capital and their labour forces. This inequality is entirely due to the wage relation. In the All-India and global scheme of things, the rice milling and commercial elite was on the small send of the official category of small scale industry.[lxxxvii]

2.4.6. Differentiated relations with the hinterland

Social differentiation: The paddy-rice sector exploits its geographical hinterland in several ways: through the production and supply of raw material and the terms on which paddy is purchased; through the dumping of its waste, through rent and the direct exploitation of labour on agricultural land owned by the urban business families; and through the role played by agricultural production in the reproduction of the families of its wage labour force – which may indirectly subsidise urban wages. While fleshing out these processes exceeds the scope of this essay, we can track their differentiating *outcomes* in three ways. First, the 'income' inequalities of the paddy-rice sector in town can be compared with those in the paddy-producing hinterland. Second, we can compare asset inequalities; third, we can examine regional commodity flows.

In the previous section, we concluded that the income inequalities within the post-harvest sector were severe. The notes to App2 T13, derived from Srinivasan's study of income inequality in the villages, show the average per caput incomes for paddy producers in 1993 at Rs 4,131; landless agricultural labour at Rs 1544 and households mainly working in the rural non-farm economy at Rs 2,553 (Srinivasan, 2004, p105). The local range of income per person [lxxxviii]– from rice producing rural landless labour households at one extreme to 'groups 2 and 3' - urban families which traded and processed rice - at the other was a multiple of 444.

App 2T14 has assembled comparative evidence estimated for the Arni region in 1973 and 1983, another region in Tamil Nadu in 1980 and for West Bengal over time from 1980 to 2002. It shows that income inequality increased massively both inside Arni and between the town and nearby villages during the 20 year period. Elsewhere in Tamil Nadu however there was at least double the structure of inequality within the system of rice markets and production, and elsewhere in India (in W. Bengal) the concentrated structure of inequality was up to eight times greater and was also increasing over time.[lxxxix]

The rural part of App2 T15 is based on Janakarajan's data on the distributions of assets in landless and landed households in the three nearby villages surveyed in 1993-4 (Janakarajan, 1996). The assets of landless households are not a contradiction in terms, for they include the value of their homes, their house plots and the equipment they own. Debt reduced their value by some 30%. With respect to landed households, not only is there very significant inter-village variation in assets but the average assets of the dominant land controlling (mostly Backward) Castes and those of the few landed Scheduled Castes varied by multiples of 10 to 20. In stark contrast to landless households, if the much larger absolute debts of landed households are factored out the value of their net assets is reduced by just 8%. The weighted average gross assets of landless households were Rs 9,024. That of landed households was Rs 126,251. Since we do not know the total liabilities of firms in the paddy-rice sector, we compare gross rural assets with the estimated present value of the urban firms.

In 1994, paddy and rice wholesalers were 3.4 times wealthier than paddy-producing landed households in the rural hinterland. Hulling-wholesalers were 10 times wealthier. Rice milling families were 62 times wealthier. In the same region in 1973, the difference had been ten times less. By contrast at about the same time in West Bengal the difference for rice milling was more than twice as great.[xc]

As for rural landless labouring households, wholesalers were 47 times wealthier; huller-wholesalers were 137 times wealthier and rice milling families 870 times wealthier than they were.

Spatial differentiation: Meanwhile, alongside the internal concentration and differentiation which had developed so remarkably in the span of two decades, the town's physical requirements of its hinterland had also evolved. Indeed paddy and rice provides the paradigm for the town (App2 T16). In 1973 Arni was a paddy marketing centre. Three quarters of Arni's raw materials were supplied from local villages and circulated for processing within the town. Only an estimated 6% of paddy came from outside the immediate district. By 1993 the spatial reach of the town had changed dramatically. Only 20% of its raw materials came from local villages; a third was supplied from distant urban wholesaling centres in Tamil Nadu and a third was imported from other states – notably Andhra Pradesh. Arni had become a cluster for parboiled *Ponni* paddy.

As for the destination of milled rice, in 1973 about half of it remained in the town and its rural hinterland while the remainder was distributed to

Madras/Chennai and other centres of urban demand in Tamil Nadu. By 1993 only about 15% of its much expanded physical output remained in the also much bigger town and its vicinity.[xci] Nearly two thirds was being shipped to urban centres in Tamil Nadu (to Chennai, Salem, Erode, Tirupur and Coimbatore) while 22% was exported to other Indian states.

The consolidation of long distance trade is only part of the story, because these flows were also being seasonally differentiated, regions to the south and north importing and exporting throughout the agricultural year. None of this vastly expanded physical reach and spatial and seasonal integration could have been achieved without a developed and competent long distance wholesale capacity. Increasingly the sector was becoming more functionally complex, purchasing paddy from wholesalers elsewhere, wholesaling rice to wholesalers in other regions, and requiring the services of specialised (English-speaking) brokers. Almost certainly, the relatively high rates of return to rice milling were due to the way they could combine the horizontal spread of trade in paddy with the vertical integration of trade in rice.

Over the two decades the sector had also specialised and, as with silk, had developed a culturally inferior, but physically higher quality commodity form that required a greater number of processing stages and costs - *ven purungal Ponni*, a 'hardly parboiled' form of this high-quality, high-yielding variety which could be sold at a premium price to the increasingly quality-conscious workforce in the industrial districts of Tirupur and Coimbatore, as well as Chennai. A growing element in the accumulation trajectories of Arni was due to the rents obtained through specialisation and branding.

3. THE ROLES OF NON-MARKET NON-CLASS IDENTITIES IN THE SOCIAL ORGANISATION AND REGULATION OF RICE MARKETS

While there is no doubting the consolidation of a thriving capitalist paddy-rice processing and wholesaling cluster, Weber's problem of instrumental rationality, involving the need for non-market authority to be subordinated to the capitalist order - the kind of 'progress' that was clearly being unleashed - remains to be explored. The process of class formation has to be negotiated through status identities. We need to see how far economic power expressed through non-class identity 'overwrites' class, and the extent to which religion, caste and gender in particular hinder or encourage and stabilise accumulation.

3.1. The role of the family:

The building blocks of this local economy were – and are - business families (corporate capital had no presence in Arni); and the exciting social transition from 'rural household' to 'business family' among the Backward Castes of the region is a topic which still awaits research. Clearly the process involves a certain amount of local migration, the bridging and the management of rural and urban investments and the acquisition of skills, contacts and finance sufficient to make investments across economic sectors. These are very heavy demands on any family. But contrary to what is often argued, they do not require a transition from joint to nuclear family forms. [xcii] Our evidence for paddy-rice (App2 T17) shows no clear trend in the proportion of joint and nuclear business families. But, in the paddy-rice cluster, that the largest firms in terms of net returns were the properties of the biggest families, all joint families with between 8 and 14 people, is strongly suggestive of the importance of family labour in the expansion and consolidation of local capital.

In such joint-family firms the moral unit of accountability is tightly knit. Control over capital is exerted not through managerial competence so much as through patriarchal authority - patriarchy in its oldest form, the control of males by men.

3.2. The Role of Gender Relations:

Elsewhere I have explained the implications for women of patriarchy in Arni's business families (Harriss-White, 2003 ch 5). Kalpana Bardhan, looking at the structure of the difference between class and gender differentiation, characterises the 'bourgeois woman' as secluded and dependent, exploiting wage labour for domestic service using resources/surplus transferred from the family firm (Bardhan, 1993).[xciii] Women in large milling and trading firm-families were indeed used for the caste-based reproduction and expansion of firms - first by means of their dowries and second (but rarely) through the practice of fictitious (*benami*) registration of a trading company in a woman's name, generally for the purposes of tax avoidance.

Elite girls cycled to school. But as adult women, their education was a status good and led neither to economic participation nor control over assets or major economic decisions.[xciv] The higher education of such women is a good example of the economic inefficiency of gender relations. Women found social purpose as 'Lionesses',[xcv] as vehicles for transmission of goods at marriage, and as the socialisers of the next generation of family labour. But women were positioned in the social structure according to a paradigm of service and subordination in which female piety was factored into a business family's reputation, with real material consequences for creditworthiness. Their prevalent lack of ownership or control over property or over any collateral which could determine credit-worthiness made the economic role of women belonging to the accumulating oligopolies an indirect one. It is clear that, while not secluded, women in paddy-rice business families experience what Ester Boserup termed 'productive deprivation' (1972).

Over the period in question, while the control of economic assets, income and profit was monopolised by higher (business) caste men, Arni's rice markets had come to depend on low caste female wage work. Female casual wage workers from the assetless class formed the largest substratum of labour in grain milling and pre-milling processing. In Arni, the paddy-rice sector rested on the backs of these women. By 1993 they formed 45% of the labour force[xcvi]. The average mill employed 15 - but up to 70 were encountered. Outcaste women were allowed to turn paddy on the large drying yards, because the kernel is still protected from ritual pollution by its husk. Women were barred from being mill mechanics and it was unusual to find them handling heavy consignments of scalding paddy during the parboiling process. Female *coolie*[xcvii] was prevalent but incorrectly regarded by mill owners as a household supplement for their employees. Wage differentials of a third to a half that of male wages in rice mills in no way reflected lower productivity. (In any case this is impossible accurately to measure accurately since the division of tasks in milling is sex-sequential.) Female mill work was almost everywhere casualised. While in other regions of India in the 1990s technical change was displacing female labour, in Arni the labour force was still being feminised [xcviii].

3.3. Caste as an economic regulator:

Caste shapes ideologies of work and status, affecting the freedom of women to sell their labour. It affects access to education and labour force entry; it is deployed by employers, contractors and employees alike to segment labour markets. [xcix] It stratifies pay. In Arni there were disproportionate numbers of SC labourers in the rice mills and this better-paid casual wage work was resented by MBC labour which competed with SCs on the *kalam*[c] floor and around the parboiling vats and hoppers.

In pursuing the way market exchange relaxes status-occupational stratification, Aseem Prakash (2010) has put the process very well. Markets embody contradictory processes which either accommodate or resist the dissolution of caste. Capitalist development destroys forms of authority which resist the processes of accumulation and reworks those that can serve its interests. Even if we cannot analyse the detail of the conflictual traffic and policing involved in this complicated and antagonistic process, App2T18 shows its 'architecture' over the twenty-year period in question. While Arni's marketplace had progressively lowered its entry barriers to MBCs and SCs as owners of firms, the paddy-rice sector remained one of relatively high social status in which Forward Castes were disproportionately prominent. The 10-yearly surveys recorded no SC owners in any part of the paddy and rice sector (compared with 11% in the town as a whole by 1993). By contrast, in the special random sample for 1994, while the general domination of Backward Castes was confirmed and there were no SC wholesaler-commission agents, there were two SCs in the other groups. Castes have become interest groups. Secularised commercial interest groups / lobbies have their roots in caste associations. In the late 1990s there were 67 such groups in Arni. While Basile discusses this in detail (2010, 2011) the following section gives an example of its corporatist politics.

3.4. Market Order, Regulation, and Collective Political Organisation*:*

The Rice Millers' Association is one is the most politically powerful trade associations in the town: a registered and formalised structure in which authority is ceded to a small cartel. It is large in membership and federated with state-level organisations. Linked with other such associations through interlocking memberships and cross-cutting control by dominant caste groups, and relatively well resourced (with Rs 4 lakhs in 1997), it is connected to both major political parties.

There are eight aspects of its activity which bear on the character of accumulation. The first is its self-regulating authority and procedure. Wages are set (though it seems these fixed rates may vary with discretion at the point of impact), disputes with labour are managed, prices are fixed, weights and measures calibrated, limits of overcapacity established (overloading of lorries, excess storage in go-downs), the terms and conditions of contracts (particularly the length of the working day for labour, and norms of delay on payments to producers) are negotiated independently of state laws. Physical security and protection, without which market exchange and transfers of property rights cannot take place, is also collectively organised. In this way, open competition in market exchange is reduced and rates of profit are raised. The law is enforced very selectively, with threat as a crucial regulator and pre-emptive development as a response. Where law is neither enforced nor challenged informal norms of business conduct prevail.

The second aspect is the regulation of labour and ancillary trades by the suppression of labour unions and by the funding and/or the paternalistic management of their associations by a small set of the biggest bosses. Labour costs are pressed down and labour unrest quashed.

The third aspect is an extremely defensive relationship with the state, a politics of avoidance in which corporatist activity is confined to the reform or reworking of tax collection so as to gain concessions, reduce vigilance, protest against scrutiny and harassment by a variety of officials, streamline and lower the transactions costs to capital. The fourth aspect is pro-active political lobbying for preferential favours in infrastructure (banks, STD phone lines) and to increase preferential access to subsidised capital (loans, raw materials subsidised through the PDS). This activity expands the reach of elite firms and integrates the urban economy regionally.

The fifth aspect gives the lie to the supposed opposition between markets and the state. It consists of giving support to the state's own corporations which trade and directly control allocations of raw materials (thereby absorbing a risk otherwise borne privately). The sixth involves the collection of private tribute for purposes ranging from giving free facilities to local government officials (free trips to cinemas, free telephone calls, free transport) to the private finance of the public sector allocation of private rights (as in PDS quotas). The *quid pro quo* is a blind eye turned towards illegal and oppressive business practices.

Seventh, political parties are nurtured, either by gathering donations which are subsequently allocated to each and every party, or by organising collections on request. These are pacifying resources and are used to insure future accumulation.

Last, commodity associations in rice consolidate corporate reputations, the stability of which shapes demand. By the mid 1990s, rice had developed a powerful but primitive form of branding by identification with the town (rather than with specific firms). The town's and the commodities' reputations rely on a link between high quality, specific attributes and a less than highest-class mass final market. Through much of the eighties and nineties the town had no elected local politicians and the Municipality was administered – like others - directly from Chennai. In alliance with other organisations representing the town as a corporate entity, the rice association resisted revisions to local property and profession taxes, a resistance which prevented the town administration from improving infrastructure – another of the rice millers' association's political demands.

All these forms of regulative politics ensure the preconditions for competition when the state fails to supply them. This kind of modern political participation takes collective forms independent of, and in a sense superior to, political parties. Caste and ethnicity are in the germ-plasm of secular as well as its non-secular political practices.

3.5. In sum: [ci]

The regulation of accumulation by norms and authority expressing social identity has changed little in Arni over this period. Thanks to it, the dynamic of capitalism dominates the local economy (requiring the subsumption of labour to capital directly through concentration, centralisation, and expanded productive investment). The era of agrarian ‘transition’, which we thought was being constrained in the 1970s, was well and truly over by the mid 1990s. But we do not find ‘pure’ capitalism in Arni in the 1990s or indeed now. Not only does there remain a significant stratum of petty production incorporated into commodity markets and yet not differentiating into the polar classes, but markets are also instituted in ways that reflect capillary forms of power and authority associated with social identity as well as class. Furthermore, market institutions cannot be read off in a determinist way from agricultural production relations. And the non-market institutions which shape this local capitalism may be able to operate, be contested and be changed outside the sphere of production through the relations by means of which society is reproduced.

Our research does not suggest that the institutions of social identity that regulate this local agro-capitalism have been much transformed over this period. This may be the result of our method and the level of detail at which we have investigated them. But in the 1990s the joint family remained the kinship structure supporting accumulation by the biggest firms. Patriarchal power ensured that women did not own property; that the educated women in business families were confined to performing reproductive and symbolic work; and that female wage labour was most insecure, exploited and oppressed. Caste reinforced patriarchy and class. It informed a collectivist ideology through which markets were regulated; and it was still a formidable barrier to SC entry and SC accumulation. The cycles of religious festivals and astrological auspiciousness still structured the seasonality of urban market demand to a significant extent, even markets for ‘non-income-elastic’ basic wage goods like rice.

While all these forms of authority and domination were being actively challenged in Arni, there is stronger evidence for continuity, persistence and adaptation than for the destruction of these regulative structures and their replacement by new forms. The state is strikingly absent as a regulator. Though the state liberates dalits by allowing them to set up as traders in the Municipal market and though it pays them relatively well as sanitary workers, dalits were still routinely treated with contempt by the municipality and the banks and shooed away from the main marketplaces should they wish to be anything other than the lowliest labour. I do not find any evidence to reject the proposition that institutions of identity form a social structure of accumulation - and that they work to stabilise the process. Political economy must pay attention to them and specify their many roles in class formation, in capitalist production and social reproduction in India – and perhaps elsewhere.

4. CONCLUSIONS: LOCAL AGRO-CAPITALISM, 1973-1994

What is ‘the role of the capitalist class in determining what kind of outcomes occur’ (Leys, 1994, p16)?

Its role is to accumulate, which it does by competition. The competence with which it manages this dynamic process is shaped by its organisational capacity, its social coherence and regulative practices, all of which we turn to discuss.

4.1. The Character of the Accumulation Process:

Over a generation, food-grains became a cash crop and the local means of subsistence were commodified as never before. Production and distribution were increasingly dominated by the requirements of accumulation. Into the 1990s, the process was sustaining ever higher rates of return. A class of ‘micro conglomerate capital’ emerged from the food-grains sector and started to deploy a range of modes of extraction and distribution of the social surplus: rent, interest, manufacturing and trade. It was no longer confined to commerce. But were ‘parasitic’ forms of rentier and mercantile capital[cii] yielding to manufacturing capital which expands the productive base? We think the commercial capitalist class had not changed its character very much. While manufacturing returns were higher than those to pure trade, the biggest manufacturing firms had also become the most extensive traders. There were signs of vertical integration by family firms originating in processing, backwards into land and forwards into rice wholesaling – as well as horizontal integration through the establishment of branch firms.

4.2. Competition:

Relentless pressure bore down on costs. Competence was becoming an increasingly important aspect of a businessman’s social identity. This did not mean that firms did not try to contain competition. Interlocked contracts bound exchange between producers and traders / millers and guaranteed about a third of Arni’s supplies. But for the other two thirds a remarkable shift in the power relations of the first transaction between producers and traders, particularly in respect of credit and debt, meant that for the first time a majority of suppliers had become free to transact under closed tender in conditions regulated by a committee of local farmers and traders under the laws of the land.

However, in the absence of anything but incremental and/or symbolic technical innovation in processing, with post-harvest labour markets reported to be tight, with pre-harvest labour markets casualising and feminising and with urban pay up to four times as high as rural pay, capitalist competition in the post-harvest system took the beckoning route and cut labour costs through exactly the same means as in agricultural production: displacement, casualisation and feminisation.

Unlike Roesch et al (2009) we found no evidence of the bonding of casual labour, though employers frequently declared that the permanent, salaried labour force was indebted to them. The distributive share – the relation between profit or net returns to capital on the one hand and labour costs on the other - shifted decisively against labour. Oppressive labour relations have been termed ‘primitive accumulation’ (Khan, 2001; 2003). As noted earlier, whether this term (which originally referred to the processes by which labour was dispossessed of land and initial capital was accumulated) loses its meaning if expanded to apply to such relations can be debated. Certainly the oppressive exploitation of labour was an integral part of this dynamic local capitalism. Exacerbated by labour displacement and oppressive market relations of petty production, it is plain that poverty is created in the competitive dynamic of capitalism alongside wealth.[ciii]

4.3. Dynamism:

The sector exhibited much dynamism. Not only had the marketed surplus and number of firms grown – and the growth of gross output vastly exceeded that in the number of firms - so also the physical volume of grain had grown. Whereas it is clear from the parallel research on production that the marketed surplus was produced under conditions polarised between agricultural capitalism and petty commodity production, our survey of the post-harvest system captured rather few petty commodity producers and traders in paddy and rice. Instead, the sector/cluster was increasingly internally differentiated into manufacturing-rentier and commercial capital on the one hand, and wage labour on the other. The diversification and differentiation which characterised capitalism in the town started to cross sectors – in its most extreme from rice milling to the desalination of water.[civ]

These dynamic economic changes expressed themselves in spatial terms. Urban concentrations of capital were matched by spatial centralisation. Meanwhile, ruthlessly controlled and exploited labour, at the heart of this dynamic, was less centralised than capital. Workers constantly moved between town and countryside mobilizing caste and village networks in the inexorable search for work.

The sector had transformed its physical and functional logistics, blurring the distinction between wholesaling and retailing. From a parochial spatial reach in the 1970s, it had by the 1990s developed commercial tentacles throughout Tamil Nadu and in other states. Is Arni's rice sector an example of an industrial district? There are reasons to doubt this. Socio-physical limits to the processing of rice mean that rice is a 'value chain' which is short on links and processes even if it is long on physical reach and social significance. Instead the sector developed its collective local brand. In terms of technological diversity, the internal intricacy in its organisation, its high growth and extensive urban-rural reach, 'Arni rice' was therefore moving towards being a dynamic, agro-industrial cluster. But in terms of its exploitative labour relations it is a low equilibrium cluster.

4.4. 'Market society' and instrumental rationality: the roles of non-market, non-class identities in the regulation of local capital:

Capitalist development destroys forms of authority resisting accumulation. But it is not that Weber's instrumental rationality or Marx's logic of accumulation subordinates non-market authority to market order. Rather, capitalism reworks those expressions of authority that can serve its interests. In the last quarter century of the 20th century, acquired identity (reliability and competence) had challenged ascribed characteristics (caste and kin). Nevertheless while the economy was driven by accumulation, relations of accumulation in turn were structured through its basic building block - the family business – and this in turn was structured through patriarchy. The largest firms were those of the biggest joint families. Gender relations in both family and firm were crucial to accumulative success. Inside the family women were used not only reputationally in a paradigm of piety, service and subordination but also of course materially to reproduce the family labour force. Inside and outside the family, gender is one of the harshest and most persistent of the 'non-market' institutions which structure labour relations and subordinate women in production and trade. Employers regard female coolie-rates as a supplement, not a wage.

Caste has changed its role in a dual process. While the caste-stratification of occupational opportunities had weakened (from the top down), the role played by caste had been transformed. As ideology and institutional idiom it lies behind the corporatist trade associations regulating Arni's informal economy.[cv] The rationalities of social identity are not only to be conceived as constraints on instrumental rationality. They show no signs of disappearing, and are the means through which instrumental rationality is construed.

4.5. Competence:

This transformation required massive changes in the work and politics of the local capitalist class. Its achievement suggests competence. [cvi] It happened on the basis of relatively low levels of formal education. Cost account books were soaked in ritual and contracts involved much memory work. (They were the verbal substance that had to be mystified in the accounts.) But accumulative success rested on severe labour exploitation, and the productivity-enhancing technology so widely diffused elsewhere in India was late to be adopted in Arni. There was little productive re-investment of resources across the sectoral boundaries of the local economy, other than in rentier activities.

These aspects of local agro-capitalism suggest several kinds of limits to the competence of this fraction of the local capitalist class. One was educational: this class had not invested in formal education and this had implications for the technical knowledge needed for entrepreneurship – let alone a well 'humanly developed' workforce. The private investments in educational infrastructure already being initiated by the local political big shot suggested that this particular 'fetter' would be broken in the 21st century. Another limit was technological. There had been no investment in the processing of the lucrative by-product - bran – the supply of which required extensive logistical competences. A third was ethical / social. Capitalists in the paddy-rice sector were a part of the class whose restricted units of ethical and economic accountability reinforced pervasive non-compliance with disciplinary interventions, notably tax.[cvii] Their non-compliance was reinforced by the fact that most municipal resources went not into developmental investment but to current salaries (about half of which had to be allocated to 'scavengers' (SC sanitary workers)).[cviii] The local culture of non-compliance then starved the state and municipality of resources needed for the very infrastructure that would enable the local capitalist class to engage with national and international markets. The final qualifier to the productive competence of the local capitalist class was the enduringly high returns to commerce and rentier modes of extracting and circulating the social surplus. These were well disguised in the biggest manufacturing firms by their increasing vertical and horizontal integration.

Political competence was expressed through collective politics. Here, lacking a committed MP until recently, Arni's elite could not easily use party politics. The professional standards of the town's local judiciary were widely thought to be declining. The town's hard and soft infrastructure was so underdeveloped that private capital was being mobilised both privately and collectively to provide for it, particularly in health and education. Surplus was redistributed from local elites to local officials in the form of bribes to abet fraud, the most persistent element of which was tax evasion. Where the local unit of accountability is grounded in kinship, where there is a culture of non compliance, the weakness of public obligations to the state reinforces the need for the non-state structure of accumulation.

5. EPILOGUE: LOCAL AGRO-CAPITALISM 2007-2010

A revisit to two villages and the town in April 2007 (see Appendix 1, an update by M.V. Srinivasan in 2009 and a revisit in 2010 have enabled us to bring the story into the 21st century, though it is obvious that the account which follows needs confirmation from deeper research. App2 T19 invites the reader to examine further rapid institutional change in the rice cluster.

5.1. Rice and its production relations:

While land relations continue to be dominated and consolidated by backward castes, one dramatic change involves encroachment onto the common lands. These are still the sources of firewood and enclosing them for house sites (at both ends of the social spectrum), or privatising and commodifying their resources (top-soil for bricks, sand for the construction industry and water for drinking) denies resources to the poorest people. The dry-season water table has sunk to 160 feet in many places, as bores have been drilled into the base of open wells. The cropping pattern has further diversified, adding flowers and luxury fruit crops so that rice production continues to stagnate - along with its yields.[cix]

Rural land values are being reshaped by proximity to transport arteries and non-agricultural uses rather than in relation to irrigation status and potential yields.[cx] The emergence of widespread rental markets - land-lords, water-lords, machine-lords and house-lords - reveals a concentrated class-fraction of rural rentier capitalists that is under formation. And a pauperized class of labouring petty producers dependent upon them. In a region with a long history of owner-occupancy, absentee owners have started to share-crop on extortionate terms the land they have no intention of selling.[cxi]

Production relations and labour markets are still grounded in the social structure of the region. Land relations are the bone of low caste contention. Dalits continue to be prevented from borrowing money, from owning or renting land. They continue to work the land and to be discriminated against in many other ways.[cxii] Having failed to tackle the problems dalits have as labour at work, agricultural labour unions work on representing them as citizens against the state for dalits face widespread cases of infringement of their social security and welfare rights, poor infrastructure and living environments. Dalit men are rejecting oppressive practices and refuse in particular to undertake the non-contractual obligations they used to perform, by means of which the tank irrigation infrastructure was maintained. Local Panchayats have moved into the institutional void to regulate the maintenance of the irrigation infrastructure under the National Rural Employment Guarantee Scheme ('What for? These tanks are useless.' said a labour organiser.) Panchayats sometimes also manage the privatisation and commodification of water for the bottled water market. Labour-displacing mechanisation has been introduced at harvest. Dalit men are migrating in large numbers to the construction industries of Chennai and Bangalore,[cxiii] leaving dalit women as vital to both paddy production and rice milling - a fact which is not reflected in their wages.

While wages have tightened by 7-8% between 2007-10, the price of open market rice has more than doubled. The calorie purchasing power of the wages of those who produce the calories has dropped dramatically, making them ever more dependent upon the state's subsidized rations.

5.2. Exchange relations:

Rice millers think the top 25% of producers by volume no longer need to borrow money for production. Other village elites who can offer land as collateral are replacing their debts to traders by another round of loans from co-operatives, and credit from nationalised and private banks. After more than a decade of atrophy, the Congress-dominated UDF at the centre reversed the retreat of formal banking from rural regions and agriculture.[cxiv] Loans however are political tools, and widely expected to be amortised. ‘They are gifts’ said a miller, laconically. For petty producers, money can be obtained from reviving old sources - commission agencies and trader-money-lenders - together with new sources – teachers and officials, pharmacists, remittances from the construction industry and the army, virement from consumer durables sold on instalments through hire-purchase agreements,[cxv] returns from milk production - plus a proliferation of pawnbrokers ready and waiting for those with gold and jewels as security.[cxvi]

As a result of significant changes to the institutions of interlocked contracts, the state has at last been able to regulate conditions for the first transaction between producer and ‘the market’. With only 20% of supplies estimated to remain tied through interlinked contracts with paddy mundies, sales have shifted to the Regulated Market yard. This severe threat to commission agents is a retaliation against their decades of delayed payments, under-weighing, caste-ist price discrimination, kind-loans in liquor, etc. In 2007, the Regulated Market yard was also incentivised by state procurement support prices for the public distribution system which, for the first time since its inception in 1965, exceeded open market prices. Just prior to the global price spike, the latter had slumped to unprecedented post-harvest lows.[cxvii] Breaking with past practice, the state Civil Supplies department then procured paddy for the Public Distribution System directly from farmers in Regulated Market sites. But by 2010 this experiment had been abandoned.

Paddy for the PDS is milled locally, with rice millers acting as agents for the State Civil Supplies Corporation and the FCI. Provided the outturn ratio and milling fee have been agreed, now that the storage laws have been relaxed, the local agro-capitalist elite has no objection to working for the state. The difference between the state-regulated outturn ratio and the real one supplies them with an informal physical supply which they can trade on the open market; and the fee itself reduces commercial risks. If any economic losses were to be incurred, they could be compensated for by collective price hoists on (non PDS) open market sales.

5.3. Agro-capital: structure and technology

Since 1995 the local rice cluster has undergone another massive increase in concentration. Arni now has 5-6 mills each capable of a physical throughput of 11,000 tonnes of paddy per year. The average is 4,500 tonnes. Barriers to entry have risen in real terms, and entry is impossible without loans from private banks. The wealth difference between the agro-capitalist elite and those who produce the paddy for it has also increased. Entry to the rental market for mills is far easier than entry to ownership and the proportion of firms leasing mills is rising. There remains space for petty production in businesses operating in rented-mills and in the firms supplying them. The agro-commercial elite is investing in land for real estate; further concentrating rice mill ownership, developing rental markets, and drawing distant kin in to the family labour force. It is developing business in stocks and shares, fleets of trucks and container (10-wheeler) lorries, supermarkets, cell-phones and consumer durables, even presciently a salt water conversion plant.[cxviii]

Arni's rice mills have lagged technologically behind those of North India.[cxix] But by 2007 only an estimated 2% remained as batteries of hullers. The rest had adopted rubber roll sheller technology. Husk-fired parboiling and driers are also now almost universal - husk had been commodified as a fuel. In 2007, however, husk was being replaced by *sugar cane* (since the co-operative sugar mill had not agreed to receive local supplies). Husk-fired driers weather-proof and speed up the system of preparation of paddy for milling. But they displace female labour. With a mechanical drier, paddy needs one sunning on the drying yard instead of three, and half the female labour force is replaced by a quarter the number of men. The average size of the mill labour force has dropped from a high of 60 in the 1990s to a high of 20 workers in 2010, yet technical change and labour displacement has not lowered the cost of production.

The process-automation frontier lies far into the future however. In 1995, it will be recalled, computers were merely a coveted status symbol. Now the internet transforms the circulation of information and the pace of transactions. Computers are also routinely used for accounts (which expose their firms to public scrutiny as never before). They are also used for on-line share dealing (which elite wives and daughters can do in the secluded privacy of their homes).

5.4. The labour process:

Mill labour remains a relatively privileged sector of the informal market, male wages being 50% higher than agricultural wages while female wages are double. The adverse gender differential has also persisted into the 21st century, women's wages being 30-40 % lower than men's. Tightening labour markets have 'opened the shop' which used to be defended by dalit and most backward caste workers. Some rice mills are importing labour on cruel contracts from regions of labour over-supply in Orissa and Bihar. Where this has happened elsewhere in Tamil Nadu, new forms of bondage have been reported.[cxx] There is no sign of unionization and no reason to think that conditions for labour will improve with technical changes in production.

5.5. Commodification:

The process of commodification rolls ineluctably onwards. Alongside husk, which is now a commodity - powdered to make holy pastes for some consumers, and a base for silicon chips for others - bran is traded as an intermediate good for the solvent extraction industry and also directly as cattle feed for local Dalit milk production. Other by-products are now commodified: broken rice is being fed to cattle as well as to humans and de-oiled bran cake is exported as cattle feed to the EU. While mills now buy direct from suppliers at a radius of about 60 km, new competition in central and southern Tamil Nadu [cxxi] has switched the bulk of Arni's branded high quality wholesale rice towards Chennai. Before the global grain price spike in 2007-8, Arni's rice was starting to be exported from Chennai to Sri Lanka, Malaysia and the USA. [cxxii]

5.6 Clustered Development

The Arni supply chain for rice which is clustered so conspicuously in the town is not an 'industrial district' in the sense recognized in Italy, if only because of its small size in relation to the town's diversified economy. Stanley (2011) has proposed a distinction between 'specialised' clusters which serve national or international markets and 'common' clusters which are found in most urban settlements. Arni's paddy and rice sector certainly is a common cluster, just as its gold is. A town may have both kinds of cluster – indeed, with silk, Arni is a good example of both.

But the concept of the common cluster is not simply a descriptive distinction devoid of analytical content, since being common does not imply being homogeneous. Stanley shows that in the case of gold, the distribution of capital and the technological and social structuring of

Arni's cluster both differ significantly from those of other gold clusters such as in Chennai and Coimbatore. Messadri's All-India comparative research on eight textiles and garment making clusters also shows the great heterogeneity in products, in technical processes and in forms of labour control between these relatively common clusters.[cxxiii] A given exogenous shock such as a change in policy or technological change will have a different impact both *on* the common cluster and *within* it – Stanley's case study shows this clearly both for the policy shock of deregulation and for mechanization. Arni's rice cluster differs from other common ones in the region by dint of its *commodity specialization* (ven purungul Ponni). The common rice cluster of Vellore is *process* specialized on wholesaling; that of Tiruvannamalai is less *spatially* concentrated; that of Polur is similar but *smaller* in assets size. All of the common rice clusters in the region of northern Tamil Nadu are far less *concentrated in assets* than the rice mills of central West Bengal where the ethnically structured system of markets differs markedly from the more caste homogeneous social relations of northern Tamil Nadu and gives rise there to greater poverty and inequality.

Whether the Arni rice cluster conforms to the definition of an industrial cluster depends on the character of its collective action. Joint action in Arni is powerfully federated. The Rice Millers Association was formed defensively in order to control labour in response to efforts to unionise male casual labour. It fixes wages (subject to considerable obfuscation in implementation), arranges apprenticeships, guards and legitimates entry, organizes the ancillary labour forces, fixes proper contracts, mediates in disputes, and organizes collective bribes when they are needed. The association resists, make representations to and negotiates with the state. It also mobilizes to perform acts of re-distributivist philanthropy. It illustrates the kind of range of external collective exchanges, collective transactions costs reductions and internal regulative authority celebrated in the literature.[cxxiv] We can conclude that Arni's rice sector is a small, common, dynamic yet low-equilibrium industrial cluster.

6 CONCLUSIONS

In contrast to much development economics which is driven by technique rather than theory, and to post-modern development studies which proceeds from there being no objective substantive reality, the research reported here has moved between theory and substance. Evidence does not speak by itself. In investigating local capitalism it is impossible to avoid concluding that the era of transition to capitalism is long gone and the logic of capital dominates the rural economy. Despite this, the capitalist economy is far from differentiated into polar classes and the capitalist class is far from seamlessly interconnected. Yet the distinctions between corporate capital and the rest which Partha Chatterjee has found so fruitful do not have much purchase here.[cxxv] We have seen that even in a single sector 'the rest' is internally differentiated. Elements of primitive accumulation persist alongside more advanced forms of capitalism including those generating petty production, and relations of capitalist production, distribution and reproduction are continually being transformed. In this case we found productive capital 'reverting' to rentier capital and capitalist production relations 'reverting' to share-cropping.

In spatial terms capital should always be analysed as a local phenomenon because the economy plays itself out in specific social and environmental contexts. As we have seen here capital is path-dependent as well as revolutionising. In economic terms capital is global because it is increasingly integrated into the global economy through commodity / supply / value chains. But local capitalism is far from being a contradiction in terms. In this essay we have seen that capital embodies contradictions not only in relations of production but also in accumulation trajectories; it behaves retrogressively as well as progressively; fractions are in contention with each other as well as with labour and it does not conform to the teleological assumptions of classical political economy. In Arni, even though commercial capital subsumes productive activity under its wing and is far from purely mercantile, the dominant element in profit is derived from trade rather than productive manufacturing activity. And what is more, in remaining persistently construed through forms of non-market, non-state authority that are neither instrumentally rational nor confined to the economy, this 'global' capital has a distinctively local character.

6.1 Local Capitalism in the 21st century

In a remarkable U-turn, the local capitalist elite has re-assessed its valuation of education. Higher education - the 'knowledge economy' – is fast becoming a highly profitable private capitalist service-industry in India. In Arni in a radical reversal of its previous neglect, the new sector has been led by business funds controlled by the A.C. Shanmugam political and business family. This has invested in a school and no less than 6 colleges on the edge of town - as well as major medical and engineering colleges near Chennai. This capitalization is on a scale that swamps the portfolios developed from rice[cxxvi] but the local rice-capitalist elite is also investing, sometimes collectively, in building and running local schools and colleges and in educating its own sons and daughters,[cxxvii] expecting them to move to the action in India's ballooning knowledge-service sector (IT and engineering).[cxxviii] A Girls' Engineering College has even appeared in Arni. The town is making up for lost time and developing as a physical hub of the commodified 'knowledge economy'.

Through education and skills in engineering science, the competence of local agro-capital has now consolidated itself to a point when the elite - while showing no sign of wishing to relinquish local control - is seeking pastures new. In the local capitalist class, an exit dynamic is at work. While the processes of concentration and centralisation intensify, the portfolios of local conglomerate capital have become more complex owing to the rentier 'turn' and the migration of their educated scions to the skilled labour force of the new service economy and entry into India's middle class. Sons of the local rice capitalist elite have already moved successfully into software and one is a highly qualified IT scientist working abroad.[cxxix]

Meanwhile, a new wave of local rural agro-capital– the village machine-lords, water-lords and landlords who dominate petty production in agriculture - is climbing the rungs of the supply chain and starting to rent-in the previous generation's fixed investments of mills, stores and yards. Bank credit has become accessible to them. The new capitals that are not yet concentrated will reinforce the concentrated and ever diversified portfolios of the elite. In a burst of technological dynamism, the sector took the giant leap it was so reluctant to take earlier, adopted new milling machines, mechanical parboiling and drying technology and it commodified its by-products, bran and husk. But it has deep contradictions, continuing to compete using oppressive labour practices, even using contractors to import gangs of indigent migrant workers at very great distance from northern states of India to compete with local labour, to keep labour un-unionised and keep wages low. It has also done nothing about the filth of the public urban environment or the serious water crisis, both of which it has played a part in causing. In 2010 piped water was available one day in four in Arni.

6.2 The State

What kind of project does the contemporary state have for this dynamic capitalism created in the informal economy which rests on highly exploitative and oppressive labour practices?

In the era of globalisation, Arni's rice industry is more state-regulated and state-licensed than before – more 'formalised' - but only selectively state-disciplined. Its commodity contracts, the financial transactions which accompany commodity exchange and the labour process all come under regulation that is not enforced by the state. But the local state is now having to maintain some of the rural water infrastructure on which the industry's raw material supply depends. The state has at long last managed to regulate some of the first transactions between producer and the post-harvest system of markets and it has dipped its toes into direct procurement for the PDS. The Tamil Nadu Warehousing Corporation go-down is used for rice storage – although not by producers (its original intention[cxxx]). Instead firms exploiting the mill rental market, without premises of their own use these stores. Warehouse receipts are collateral enough for bank loans which supplement the working capital of these firms. 'Formal' commercial credit has come within the reach of modest paddy-rice trading businesses.

While agro-capitalist productive accumulation is slowly but surely being pulled within the ambit of the state, the National Rural Employment Guarantee Act of 2005 has required the state also to intervene in rural labour markets. The right to 100 days of work self-selects agricultural labourers (in this region as elsewhere in India, mainly women). When cultivation is assailed by drought, where land is being taken out of agriculture, where mechanization is displacing unskilled labour and where workers cannot migrate, there is no doubt that this scheme (mainly 'mud-work') is supplying a vital surrogate for unemployment benefit. And it may even affect production: in 2010 an urban rice miller complained that it reduced the supply of workers to his drying yard…

While the bulk of the productive economy remains informal and un-state regulated, the *reproduction* of the labour force living on poverty incomes is increasingly due to state intervention. The state supplies basic wage goods at considerable cost in subsidies. It subsidises a Noon Meals Scheme for children and pensioners below the poverty line (BPL). It provides a BPL welfare state (maternity allowance, survivor benefit, sickness/disability benefit, pension etc). Without a land reform worth mentioning, it has seized culturable waste and common land for house sites for SCs.[cxxxi] While wood and charcoal are renewable energy and LPG is a fossil fuel, it is now extending LPG as a 'less polluting' alternative to biomass-fuelled stoves. [cxxxii] It is even distributing a colour TV to each house. For the first time dalit huts have locked doors. For the state of Tamil Nadu to be able to make such transfers at all depends to a significant extent on its commercial taxes and its control of alcohol retail sales.

Political scientists have always described Tamil Nadu's politics as populist, but Tamil people have described it as 'our socialism'.[cxxxiii] If it's 'our socialism', then it is one indebted to state revenue derived in some measure from the increasingly mass consumption of alcohol.[cxxxiv] These partly alcohol-fuelled social transfers do nothing if not aid the increasing concentration of economic assets that we have observed in the paddy-rice sector of Arni. They can be understood as the pay-off necessary to ensure the political stability to enable this process of accumulation to persist.

Acknowledgements
This research was originally funded by the British Government's aid for development research through the Overseas Development Administration in the 1970s and the Overseas Development Ministry via the International Food Policy Research Institute, Washington, in the 1980s. In the 1990s while the third round of village research was funded by the ODM/Department for International Development, the Arni component was self-funded, as have been subsequent visits. I am very grateful to all the traders, millers, labourers, officials and other stakeholders who have agreed to answer my questions since 1973. I am also grateful to IEDES, Paris-1, for the visiting fellowships in 2009 and 2010 which gave me 'space' in which to prepare this long essay. Special thanks to M.V. Srinivasan for the meticulous tabulation of his own significant component of the field research on the economy of Arni in 1994-5 and for his updating notes in 2009; my gratitude also to Elisabetta Basile, S. Janakarajan, Colin Leys, N. Narayanan IAS, Gilbert Rodrigo and M Vijaybaskaran; and to the audiences at the Madras Institute of Development Studies, Chennai, and the Institute for Social and Economic Change, Bangalore, 2010, for their interest and informed comments. Finally I wish to remember with gratitude my discussions over an entire decade with the late P.J. Krishnamurthy.

Appendix 1. Mixed field methods and sources

Quantitative Information

1. Production and exchange – three rounds of village censuses and surveys (detail is given in Harriss-White and Harriss, 2007)
2. For the 1970s:

2.1 a stratified random sample survey of 200 agricultural firms in North Arcot district –of which 53% were dealing in rice (the remainder were in fertiliser and pumpsets) and a quarter were from Arni and its region. (Harriss, 1981, p32)

2.2 for the town: a 6% survey, randomly selected after stratification from functionally mapped censuses, 88 firms in 1973-4

3. For the 1980s: an urban 6% stratified random sample of 114 firms in 1983-4 (Harriss, 1991, p183) which picked up rice wholesaling, milling and retailing
4. Three sources of quantitative data for town for 1990s

4.1 6% stratified random sample of 275 firms in Arni town in 1994-5, now collated and systematised by Basile (2010, 2011).

4.2 A special 15% random sample survey of the paddy –rice sector in 1994 drawn from the Arni taluk supply office list – 22 firms – raw data used here for the first time. These data include: Cost accounts. Assets histories. Investment portfolios. Labour force details: numbers, costs and tasks. Commodity flows. Unsystematic information volunteered on credit. This sample of 22 firms is larger than a statistically ‘small’ sample but when disaggregated, the cell sizes are small; so calibration is essential. The special survey is 3 times the size of the paddy rice sector in the main 1994-5 sample and can be calibrated against the ‘main’ sample data, against the results from earlier rounds of research on paddy-rice, and against the subset of 9 rice firms of the 52 studied by BHW in 1994, and from field research in other regions.

It cannot be supposed that firm owners overestimated their returns. If anything businessmen lean towards concealment and considerable effort is required to reassure them about anonymity and confidentiality - and continually to cross check the estimates they give (Harriss 1992).

4.3. A complete population survey of 67 business associations in 1997 (for Elisabetta Basile (Basile and Harriss-White, 2000; Basile , 2010, 2011)

All this information is derived from carefully designed open-ended interviews but is *estimated* by the respondent and cross-checked for consistency by the interviewers (Harriss-White, 2008, App2).

Qualitative Information

1. Own field research on 52 large firms and sensitive sectors in 1994 and 1995 including 9 firms operating in the paddy rice system;
2. General field notes from that period and conversations with key respondents and with wage workers.
3. Interviews with officials and policy ‘stakeholders’.
4. Official data; Municipality; Goverment of Tamil Nadu departments; Banks.
5. A short revisit to Arni and two villages in April 2007 and conversations with 5 urban businessmen and 2 groups of urban labour and with 4 agricultural producers and 2 ‘focus groups’ of petty producers and agricultural labourers.
6. A revisit in March 2009 by M.V. Srinivasan.
7. A revisit in March 2010 with interviews of a rice mill owner, two local organisers of agricultural labour from the Agricultural Workers’ Welfare Board, several goldsmiths, a pawnbroker and a powerloom silk merchant.

Appendix 2. Tables

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Table 1: Size and Growth of Paddy-Rice Sector

Sector	1973	1983	1993
Rice Mills	23	46	86
Rice wholesale	17	45	56
Rice retail	22	30	17
Total rice	62	121	159
Arni – total firms	1194	1923	4703
Paddy rice growth %		95	31
Arni growth %		61	144

Source: Town censuses

Table 2: Details of Firms in Paddy-rice Sample, 1994

N = 5 commission agents and wholesale
N = 2 CA + wh + hulling merchant
N = 1 ex hulling merchant and paddy wholesale
N = 1 commision agent with fertiliser wholesale
N = 4 hulling merchant
N = 2 rice mill and wholesale
N = 1 rice mill
N = 6 rice mill and hulling

Source : Paddy-rice Sample Survey from Population List in Arni Taluk Supply Office

Table 3: Assets Distributions, 1994, Estimated Present Value, Rs '000

Group	*n*	*mean*	*min*	**max**
1. mainly wh	7	437	200	1000
2. wh + hulling	8	1236	55	5000
3. rice mills	7	7850	4000	17,500

Table 4 Organisation of Labour and Inequality in Production

Year	Family labour	Perman -ent salaried	Casual male	Casual female	Total labour	Income per working family member Rs'000	Costs/ wage labour Rs '000	DS (1)
1973	1.1	5.8	3.2	5.6	14.6	11	0.9	71
1983	1.8	6.2	4	16.8	27	154	5.3	52
1993	1.7	6.2	15.3	10.7	31 (2)	547	5.4	15
1994						% F (3)	Assets/ Lb (Rs '000)	
Gp1	1.9	0.3 (4)	0.7	1.7	4.6 (5)	35	86	
Gp2	1.6	7 (6)	18	24	46	48	65 (7)	
Gp3	2.2	6	8	16	32	50	308 (8)	

Sources: Basile (forthcoming) ch 9 Table 5; Appendix TA1 and TA2; Paddy-rice Sample Survey, 1994

Notes:
(1) DS = distributive share = (total wage costs/profits (residual claim))
(2) Estimates vary between 31 and 34
(3) F = female
(4) There was one permanent labourer in each of 2 firms
(5) Two firms were self employed
(6) One firm had 40, 3 firms had none; without the outliers the average is 4
(7) One firm was self employed, another had Rs 244,000 per unit of labour
(8) Polarised between Rs 454,000 and 200,000.

Table 5: Origins of Starting Capital, Paddy-Rice, 1973-93 (% instances)

	Ag prodn	Ag trade	Non Ag trade	Savings /wage	Prop -erty sale	Inherit -ance/ marriage	Finance /loan
1973	4	11	8	11	11	42	11
1983	23	15	8	-	23	23	8
1993	16	16	16	16	-	16	16
	From Arni	Within district	Within TN	Outside TN			
1973	75	21	4	-			
1983	85	15					
1993	80		20				

Source : Basile (forthcoming) Table 9Aa

Table 6: Entry, Starting Capital and Accumulation, 1994

	Av DOS (1)	Av Stg Capital (2)	OR Ag Profit /savg	I Trade	GI Family	N Bank	S (3)_ Inherit -ance/ marriage	EPV (4)
Gp1	1985 (1978 -91)	115 (13 - 257)	85	10	5	-	-	438 (200- 1000
Gp2	1980 (1955- 93	91 (13 – 416)	62	25	-	13	-	1236 (55 – 5000)
Gp3	1960 (1955 – 76) (5)	401 (350 - 425	25	25	-	-	50	7850 (4 – 17500)

Source: Paddy-rice Sample Survey, 1994-5

Notes:

(1) DOS = date of start
(2) In constant 1993 Rs'000 – see appendix 3 for inflators
(3) Origins in quantities, made constant for 1993
(4) EPV = estimated present value
(5) One outlying mill started in 1907
(6) For starting capital and EPV, minimum and maximum values are bracketed

Table 7: Interlocked contracts in the exchange of paddy, 1993-4

	P R I N C I P A L S		AGENT	COMMENTS
1.	Water seller	Paddy wh/ca	Producer	Producer purchases water and sells paddy; water seller borrows from paddy wh; Paddy wh ensures supply
2.	Bullock cart hirer	Paddy Wh/ca	Producer	Bullock cart hirer acts as guarantor for prodr ; exchanges information about producer with paddy wh; is paid in cash/meals/arrack Paddy wh ensures supply
3.	Fertiliser dealer	Paddy Wh/ca	Producer	Paddy wh arranges loan component as fertiliser (its price may exceed market price). Fert dealer offloads stock; Paddy wh ensures supply
4.	Weighing Labour	Paddy Wh/ca	Producer	Weighing Lb short-weigh producer's consignment and are paid by paddy wh for *thiramai* (weighing 'skills')
5	Hulling merchant	Paddy Wh/ca	Producer	C.A. does not auction lots to highest bidder (for which the fee is 1%) instead has tied arrangement on higher commission. Vertical integration (within kin group) compromises market transactions further *(ulladi vyabaram)*

Source: notes in Janakarajan (1996)

Table 8: Wage Work and Wages, 1994, (Rs)

	RL (1) n	RL Range	RL EAI (2) (Rs '000)	CM (3) n	CM Range	CM EAI	CF (4) n	CF Range	CF EAI
Gp1	2	800/m to 800/m + [2x tea/day]	9.6-10.3	6	25-40/day	7.5-12	12	30 - 35/d (5)	10.5 to 720 kgs paddy
Gp2	56	500 – 1000/m; 700/m + Rs 5/d	8.2-15	29	25-30/d (piece rate); 7-800/m	8.4 - 10	56	16-20/d 'piece rate'	4.8-6
Gp3	44	"30/d" 500/m + Rs 2-5/d to 1000/m +Rs 10/d	7.2 - 21	55	20-60/d	2.9 -15	113	15-30/d	3 - 9

Source: 1994-5 Paddy-rice Sample Survey

Notes:

(1) RL = regular/permanent labour

(2) EAI = estimated annual income (assuming 300 days operation)

(3) CM = casual male labour

(4) CF = casual female labour

(5) One case here of men and women being paid equally at Rs 36/d

m = month; d = day

n = number of labour contracts described

Table 9: Accounts, Paddy-rice Sector, 1973-93, Rs '000

	raw mats	c.o.p	lab	Gross output	Estd net income
1973	520	20	8.7	566	12.2
1983	4261	928	14.4	5633	278
1993	7707	899	138	9554	930

Source: Basile (forthcoming) Tables A1 and A2

Table 10: Indicative Accounts, Paddy-rice sector, 1994, Rs '000

Costs	Group1	Group2	Group3
Raw /intermed material	425 (6)	5344 (8)	1116 (7)
Trading And Processing	112 (6)	587 (8)	1088 (7)
Rent	6.5 (5)	8 (2)	15 (2)
Labour	17 (4)	NI	240 (6)
Interest on loans	NI	36 (2)	NI
Value added	2982 (6)	7152 (7)	5035 (7)
Gross Output	3430 (6)	13389 (7)	16210 (7)
Net returns	217	4265	4776
Rate of return	19 (2)	68 (6)	23 (5)

Source: 1994-5 Paddy-rice Sample Survey
Notes:
Number of instances is bracketed
NI = no information

Table 11: Accumulation, paddy-rice 1973-93, Rs ‘000 (current)

	n	Av stg capital	Av loan for wkg capital @ start	EPV	P O R % no diversification	T F O % invest -ing within sector	L I O % invest-ing in diffnt sector
1973	22	19	35	71	68	4	27
1983	5	18	NI	715	13	63	25
1993	6	543	1400	4000 (1)	17	66	17

Source: Basile (forthcoming) Table A2
Notes: (1) from 1994-5 Paddy-rice Sample Survey

Table 12: Portfolios, 1994

Group 1 (n=7)

Urban land : 5 acres + house plots (2)
Rural land: 25 acres + 4 pumpsets (3)_
2 urban houses, scooter (3)
Fertiliser business; chillie trading business (2)
Savings, consumer durables, education, dowries

Group 2 (n=8)

Urban land: site for a rice mill; 7 acres; 2 house sites (5)
No rural land
8 houses worth Rs 36 lakhs; rice store; lorry; van; truck (4)
Rice mill
Savings (280 sovereigns), consumer durables, education, dowries (6)

Group 3 (n = 7)

Urban sites for 7 houses (rs 25 lakhs) (3)
Rural land (20 acres) = 3 pumpsets (2)
10 houses (Rs 70 lakhs); lodging house; shopping mall (5)
Lorry, scooter, maruti; 3 x 3 rice mills; 2 other rice mills; groundnut milling (6)
Savings (200 sovereigns), stocks and shares, finance, consumer durables, education, dowries (5)
Investment in private school; management of school (2)

Source: 1994 Paddy-rice Sample survey

Table 13: Income Differentiation within the Paddy-rice Sector, 1994

	Av hh size	Av no fam wkrs	Net Returns Rs '000*	Net Ret/ FM	Net Ret/ Fam Wker (NRF)	NRF in multiples of estd income of RL	NRF in multiples of estd income of CM	NRF in multiples of estd income of CF
Group1	8	1.9	217	27	114	13	11	23
Group2	6.6	1.6	4265	646	2665	296	266	533
Group3	7	2.2	4776	685	2171	241	217	434

Source: 1994-5 Paddy-rice Sample Survey

Notes: FM = family member; RL = regular labour; CM = casual male labour; CF = casual female labour

Male regular earnings estimated at Rs 8.5-15k; male casual at Rs 8.5-10 k; female casual at Rs 3.9-10k

* In the same period, the per caput income for paddy producers averaged Rs 4.1k; that for landless agricultural labour Rs 1.5k and that for households whose primary income came from the rural non farm economy Rs 2.5k (Srinivasan, 2004, p105).

Table 14: Relative inequality in foodgrains system (average returns from paddy-rice per family member net of costs but gross of firm family consumption, in multiples of the poverty line)

	Tamil Nadu: N. Arcot (Arni region) 1973 (1983)	Tamil Nadu: Coimbatore Region 1980	West Bengal: Birbhum District 1981	WB: Bardhaman Dt (estimated assets as % those in petty trade) 1990	WB Birb. and Bard. dts 2002
Landless labour	0.7 (0.3)				
Paddy producer	1.1 (1.3)	1.5	0.7		
Groundnut trade		14			
retail	1.5 (3)				
wholesale	8 (20)	5	5	(5)	11
broker			14		23
Huller/husking Mill/rent-in			5	(3)	4
Rice mill	12 (36)	25	92	(55)	115

Sources: author's field surveys (see Harriss, 1981, p102 for N Arcot/Arni in 1972; Harriss, 1991, p203 for Arni in 1983 (bracketed); Harriss-White, 1996 p175 for Coimbatore district in 1980; B Harriss-White, 1002, p 100, 156, 222 for West Bengal in 1981, 1990 and 2002).

Table 15: Assets Differentiation, Arni Region, 1993-4, Rs '000

Rural Landless hh	n	Gross assets	Liabilities	Net assets
Village 1	199	9.7	2.8	7.0
Village 2	78	8.4	3.1	5.2
Village 3	51	6.6	1.7	4.9
Wtd av		9.0		6.3
Rural Landed hh				
Village 1	147	179.1	10.3	159.8
Village 2	184	114	7.9	106
Village 3	76.5		7.6	68.9
Wtd av	126.3			117.1

Urban business	n	EPV	Multiples of rural landed hh	Multiples of rural Landless hh
Group1	7	427	3.4	47
Group 2	8	1240	9.8	137
Group 3	7	7850	62	870

Sources: S.Janakarajan, 1996, for rural evidence; 1994-5 Paddy-rice Sample Survey for urban evidence

Notes:

1. Rural variation has two dimensions- intervillage, and within village by caste
2. The assets of landless labouring households compriise house plots and tools and equipment

Table 16: Paddy-rice Commodity Flows, 1973-93, (%)

ORIGINS	Within Arni	Local vills	Local dt	Chennai	Other Urban TN	Other Rural TN	Outside TN
1973	32	42	16	3	4	2	
1983	8	18	28	-	10	19	24
1993	13	7	7	-	32	8	32
DESTI-NATIONS							
1973	24	12	15	21	26		
1983	13	3		15	48		22
1993	5	4	6	12	60		22

Source: Basile (forthcoming) ch 9 T8; App T7
Note: These flows are constructed from estimated average annual quantities per respondent

Table 17: Family Business Ownership Patterns, 1973-94

	n	Nuclear (%)	Av hh size	Joint (%)	Av hh size	Pvt Ltd Co (agent) (%)
1973	22	64		14		14
1983	5	20		80		
1993	6	60		40		
1994						
Group1	7	40	5	60	10	
Group2	8	37	4.5	63	8	
Group 3	7	42	5	58	9.5	

Sources: Basile (forthcoming) ch 9; 1994-5 Paddy-rice Sample Survey

Table 18: Caste Composition of Business Families in the Paddy-rice sector, 1973-93, (% firms)

	FC	BC	MBC	SC	n
1973					
Paddy-rice	-	76	24	-	22
Total Arni	15	60	20	4	106
1983					
Paddy-rice	-	100	-	-	5
Total Arni	15	65	14	6	122
1993					
Paddy-rice	33	66	-	-	6
Total Arni	10	52	36	11	213
1994					
Group 1	-	50	50	-	7
Group 2	-	50	25	25	8
Group 3	-	66	16	16	7

Sources: Basile (forthcoming) ch 9; 1994-5 Paddy-rice Sample Survey

Table 19: Paddy and Rice Economy – 2007-10
Quantity data from 2010 is italicized.

LAND RELATIONS
Widespread encroachment on *poromboke*/comon property for
SC house sites (by GoTN) in rural areas and mansions (including one reputed to have a swimming pool) on the periphery of town.
Top-soil for the brick industry
River-beds for a) water b) sand for the construction industry

In some villages, SC may be prevented from renting land owned by Vanniyars. In others SCs are taking share tenancies.

Land values: village 5km from Arni in 2010: punjai Rs 4.5k per cent; nanjai Rs 2k per cent. Dryland by roadside Rs 2k per cent. Remote dryland Rs 0.5 -1k per cent.

WATER RELATIONS
1. Dry season water table at between 75 and 160 feet.
2. Competition between agriculture and metropolitan consumption. Widespread sale of tank water (mediated by Panchayats) as well as private well water to drinking water companies.
3. Dalits refuse to do non-contractual work for new landowning castes. Panchayats take over maintenance of irrigation infrastructure (helped by NREGS @ Rs 80/d (*Rs 120 in 2010)*

RENTAL MARKETS
Concentrated in (absentee) agrarian elites: expansion of renting of land (50:50 rice share with tenant bearing 100% costs), water (4 x 75kg paddy bags per acre of paddy) , agricultural equipment and houses.

PRODUCTION
Technological changes:
1. Rental market in combine harvesters
2. Peripatetic threshers co-exist with bullock power

Production changes:
1. Paddy yields continue to stagnate at 2 - 2.5 tonnes per acre.
2. Diversification into horticultural crops; sugar cane; banana, flower (jasmine) and milk production (by dalits)

PRODUCTION LABOUR
1. Dalits migrate out.
2. Agricultural work is being feminised

3. Male casual agricultural wage = Rs 60-70/day (*Rs 75 in 2010*)
(ploughing Rs 120/day with bullock *Rs 150 in 2010*)
4. Female agricultural wage = Rs 20-35/day 2007; *Rs 35 in 2010*
5. Minimum wage Rs 80/day (as for NREGA) *Rs 120 in 2010.*

PRODUCTION CREDIT
From 2005, some replacement of traders' credit by nationalised/co-operative banks at 9-12%; proliferation and decentralisation of pawnbroking on gold and jewels @18 (legal limit) to 24% *but up to 10% per month*; some traders' credit @11%.

OTHER CREDIT
1. Chit funds outlawed by GoTN in 2002-3 but persist in villages.
2. SHGs - 3 in two villages – collapsed due to repayment problems – used for marriages, education, house repair and medical costs.

COMMODITY PRICES
Wholesale paddy Rs 6-7.5/kg *Rs 11/kg coarse in 2010 Rs 28 fine*
Wholesale rice : coarse: Rs 8-15 fine Rs 20/kg *fine Rs 38 /kg in 2010*
PDS rice from 2005 drought: Rs 2 /kg -> *Rs 4 /kg in 2010*

INCOMES
Agricultural labour households Rs 1,300-1,500 /hh/ m
Net returns to paddy producing households – not ascertained ('costs have risen dramatically' (?Rs 6k/acre)) Net returns per acre (?per season?) Rs 4k.

ENTRY BARRIERS
Vary with capacity of mill from Rs 1.5m for an 8 tonne/day capacity to Rs 4m for a 22 tpd capacity (6,600 tonnes per 300 day year).

RICE MILL PRODUCTION
1. Specialisation in high quality branded rice.
2. Massive concentration in market structure: 5-6 mills have output of 75 tpd. Physical output of largest mills increases by factor of 7 on 1995 to 22,000 tonnes per year. (Check: each mill = entire output of town in 1973?)
3. Technological change: rubber roll shellers; and husk fired driers, the average one of which replaces 15 women (half the average female labour force in a mill) by 4 men.

4. Trade flows: a) expansion of direct sales from producers in 60 km radius, as well as from Arni Regulated Market. B) limited export to Malaysia and USA.

MILL LABOUR
Casual male Rs 100/day *(Rs 150/day in 2010)* casual female Rs 60 / day *(Rs 100/day in 2010)*
SC casual male Rs 50-70 [plus 2-3 *padi* (=1.6kgs) rice (= Rs 25)*] = 75-95/day
SC casual female Rs 30-40 [plus 2-3 *padi* rice (= Rs 25)*] = Rs 55-65/day
This kind perq can vary from the mount here to [3 padi broken rice per week = approx Rs 10]

[Source: field research, April 2007 and March 2010 – see Appendix 1]

Appemdix 3 : Deflators/inflators

Food

2009	640	
2006	463	
2001	427	100
1995	300	
1993	240	
1990	194	45
1985	150	
1980	100	23
1973	58	

Source: http://labourbureau.nic.in/CPIW05%20Table1.htm

Exchange rates

Rs/£

1982	14
1990	40
1997	57
2001	67
2003	75
2007	92
2009	80

Source: http://www.thisismoney.co.uk/exchange-rates

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Endnotes

[i] The Geneva-based Network for Governance, Entrepreneurship and Development (2008) has listed the minimal regulative framework as property rights, infrastructure, technology, a fiscal framework, education, skill building, and the professional effectiveness of public administration. In a second another document (2007) , they add judiciary, law-enforcement and security.
[ii] Khan, 2004
[iii] Hoklmstrom, 1998; Ghosh, 2006
[iv] Altvater, 1993; Chatterjee, 2008; Mohan Rao, 2009
[v] Dasgupta, 2008; see also the special issue on India's Informal Capitalism of the International Review of Sociology (eds) Basile and Harriss-White, 2010.
[vi] Bernstein, 1995
[vii] Harriss-White, 2010
[viii] Wanmali and Ramasamy, 1994 Chapman and Pathak, 1997
[ix] Cadene and Holmstom, 1998
[x] Chatterjee, 2008
[xi] Lefebvre and Enders, 1976; Saez 2002; Bandhyopadhyay, 2004
[xii] Over the last 6 decades, India-wide, some 50 million people have been estimated to have been displaced by development projects in the national interest with minimal provision for their resettlement (see Sanyal, 2007; Sen 2008)
[xiii] Harriss and Harriss, 1984
[xiv] The first part of this section closely follows Leys, 1994
[xv] See NGE&D, 2008, for a single contemporary example in which capitalist are called the 'asset class', the 'value chain links', 'very small enterprise', and 'entrepreneurs'.
[xvi] Dewey, 1962; Geertz, 1963
[xvii] In particular outsider status protects capitalists from redistributive obligations: the 'trader's dilemma' (Evers, 1994)
[xviii] See the critical review in da Corta, 2010.
[xix] Kotz, Mc Donough and Reich, 1994; McDonough, 2007; the work of McCartney on India (2010a) is exceptional.
[xx] Schmitz and Nadvi 1994; Kaplinsky and Morris, 2000; Gereffi, Humphrey and Sturgeon , 2005; Ruthven, 2008
[xxi] Cadene and Holmstrom, 1999
[xxii] Prahalad , 2004
[xxiii] World Bank 2006 ; Thorat 2008
[xxiv] Leys, 1994
[xxv] He examined the political limitations of national capitalist classes.
[xxvi] His famous and controversial treatise on the protestant ethic (Weber 2002) explored the moral conditions necessary and sufficient for the *origin* of capitalism, not for its spread to societies governed by other religions, which he also studied (1951, 2000) – as did many others subsequently (e.g. Myrdal, 1968) – but he was uninterested in the moral conditions under which the labour force was created.
[xxvii] Polanyi, 1947. Institutional economists have engaged with the distinctiveness of capitalism (Veblen 1904; Schumpeter, 2003) but not with local capitalism.
[xxviii] Wolf, 2007
[xxix] J. Harriss, 1982
[xxx] B. Harriss, 1981

[xxxi] op.cit., p 208
[xxxii] Harriss, 1981, p101
[xxxiii] Harriss, 1981, ch 5
[xxxiv] Harriss, 1991, p199
[xxxv] (ed) Harriss-White, 2011
[xxxvi] This reinforces our choice of basic food-grains for the sector and regional research reported in this essay.
[xxxvii] From Appendix 2 Tables 1 and 10 giving numbers of firms and average gross output and using deflators from Appendix 3.
[xxxviii] 40% of rural men and 16% women work in the non-agricultural rural economy (Basile, 2011b)
[xxxix] Colatei and Harriss-White, 2004
[xl] See Harriss-White, 1996a for corruption; 2004, for infrastructure
[xli] Harriss-White, 2004.
[xlii] We have not used the resources of archives.
[xliii] Srinivasan, 2004, p105
[xliv] Harriss, 1982
[xlv] Colatei and Harriss-White, 2004; Jayaraj, 2004
[xlvi] Harriss-White, Janakarajan and Colatei, 2004
[xlvii] Harriss-White and Janakarajan, 2004
[xlviii] Basile, following Beccatini, 2011b
[xlix] Schmitz and Nadvi, 1994
[l] Tables will henceforth be identified as App2Tn
[li] By way of contrast, the silk sector numbered 1486 firms in Arni in 1993 plus an estimated 12,000 looms/livelihoods in the surrounding villages (Basile, 2010)
[lii] 'You have to be a Ratinamangalam Gounder to be a market coolie' said one. There are other ways in which even the census of businesses (which relies on visibility) may be an underestimate. We were told that as many as 60 commission agencies were tucked away in Arni.
[liii] See Appendix 3 for Rs exchange rates against sterling. In West Bengal, there were also three strata in the markets for rice (Harriss-White, 2008, chapter 4)
[liv] Janakarajan, 1996
[lv] See Appendix 3 for details of inflators/deflators derived from the Consumer Price Indices
[lvi] We see later that rice milling entry barriers have increased vastly in real terms.
[lvii] Though there is little detail on credit, the accounts show that loans became increasingly important for working capital – see App 2 T10
[lviii] Price formation and gross margins are subjects to be developed later. Prices inside the value chain vary with variety and quality at each stage as well as seasonally. Reference prices the end of 1993 were as follows: Ponni Rs 380-400/ quintal; IR 50: Rs 260; rice wholesale (parboiled Ponni): Rs 800; parboiled IR50: Rs 530; cheapest coarse rice retail: Rs 5.5/kg.
[lix] In 1993 -4, bullock carts were the dominant mode of transport of paddy within a 10-15km radius of town.
[lx] See for example Khan, 2001
[lxi] See Breman, Guerin and Prakash, 2009, on bonded labour and Ramachandran and Rawal, 2009 who have found labour shackled to the fields in the agriculturally progressive state of Haryana.

[lxii] Perelman, 2000, has studied the genealogy of the concept exhaustively. It refers to the separation of the masses from the means of production without which they could not be free to sell their labour power. It also refers to the accumulation of capital prior to its productive investment.
[lxiii] Officials increased entry barriers by demanding bribes for licences. In this informal economy, quite a few enterprises were not licenced or relied on the licences of other firms in the family. But the main arenas of informality were in verbal contracts, labour relations and tax non-compliance.
[lxiv] Harriss-White, 1996 b
[lxv] This diversion of use is a quite common fate of interventions that are inappropriate when introduced – in this case because it could not crack the trader-moneylender relationship which determined the conditions of first sale. See Harriss-White, 2004 for further cases of vired purpose in infrastructure.
[lxvi] Washbrook 1972; Baker,1984
[lxvii] Elsewhere, larger volumes of up to 800 tonnes per year were being milled in this way with no economies of scale and an 'obsolete technology'(Harriss-White, 2008, p222).
[lxviii] In this case, we do not have data to investigate this further.
[lxix] See Harriss-White, 2008 for evidence in West Bengal
[lxx] Harriss, 1981, p117
[lxxi] This is what we have also found in West Bengal over a quarter century (Harriss-White, 2008).
[lxxii] Average earnings per wage worker have been estimated from two kinds of source. The employers' estimate of wage costs in the main sample generated average annual earnings of between Rs 2,500 and 9,000. The annualisation of employers' discussions of tasks and pay rates for different categories of labour in the special random sample generated estimates on the very sensitive assumption that the working year is about 300 days – of Rs 6,600 for casual women and about Rs 10,000 for male casual labour and slightly more than this for regular labour.
[lxxiii] Harriss-White, Janakarajan and Colatei, 2004, p 35
[lxxiv] We have no direct evidence of bonded labour in the rice mills, but Roesch et al (2009) found it in 2004-5 in mills and drying-yard firms in three districts on the eastern coastline. The practice of bonding labour is focussed on scheduled tribal Irulars there (and while Irulars work in re-cycling in Arni they are not found in the mills – and there are no drying yard firms in Tiruvannamalai district either).
[lxxv] Breman 2009, Breman, Guerin and Prakash, 2009
[lxxvi] Family labour was 4-7% and regular salaried labour 15-20%.
[lxxvii] Labour cost data were very difficult to collect however. See App2T8 for an alternative estimate of income for wage workers in the paddy rice cluster derived from descriptions of tasks and wage rates and the assumption that the working year is 300 days. The main result would not be altered by even a doubling of the estimated wage however.
[lxxviii] Defined as the [gross output minus total costs] / [capital stock + working capital] .
[lxxix] As in West Bengal in the 21st century (Harriss-White, 2008, p238).
[lxxx] Harriss-White, 1996 c, p173
[lxxxi] Harriss-White, 2008, p100
[lxxxii] Cloth businessmen had entered commission agencies and wholesaling. Silk magnates were investing in rice mills.

[lxxxiii] Harriss, 1981; 1991
[lxxxiv] The average inter-group difference in estimated present net value was 17, the intergroup difference in returns per family member was a factor of twenty five and that per active worker was twenty.
[lxxxv] Harriss-White, 2008, p226
[lxxxvi] The labour lawyer K. Sankaran uses 190 days a year , 2010.
[lxxxvii] The firms working in Arni fitted international categories very poorly. Micro enterprises have up to 10 workers with up to $10,000 assets (Rs 4.5 lakhs); very small enterprises have between 2-10 workers and gross outputs of up to 2m euros (Rs 13.3 crores) ; small enterprises have up to 50 workers and assets of up to $3m (also Rs 13.5 crores) (NGE&D, 2008, pp3-5).
[lxxxviii] The range would be greater had the rural incomes been gendered rather than computed as per capita averages per household.
[lxxxix] However this inequality, which owes itself in part to how we have classified and averaged the data, is as of nought compared to the extremes of inequality within the local villages. The range of assets inequality between the top of the rural capitalist elite and the poorest landless labour households in the surrounding villages in 1993 was a factor of 1:2,150 (Harriss-White and Janakarajan, 2004, p42).
[xc] Harriss-White, 2008, p291
[xci] Flows expanded in value by a factor of 15 in current Rs and 4 in constant Rs. Sample flows of raw/intermediate materials in current Rs were Rs27 lakhs in 1973; Rs 116 lakhs in 1983 and Rs 400 lakhs in 1993.
[xcii] Harriss, 1981
[xciii] Harriss-White, 1996 c. Male family labour (up to 13 members have been encountered) whose work is loosely specified, may work part-time or seasonally or as part of a multiple occupational profile. Permanent workers (averaging 3 but up to 7, whose task specification may be quite refined but whose terms and conditions are varied) may work at the simultaneous performance of more than one activity within the firm and also on their own account. Rates of pay are unsystematised, and accentuated by both patronage and debt bondage. Male casual labour (averaging 9 but up to 40) may be permanently attached to a trading firm but employed on a daily, weekly, seasonal, group contract or piece rate basis for manual work. While tasks are highly specified, contracts, terms and conditions, and rates of pay vary greatly. Male child labour is used at key points in the grain marketing system (messages, carrying food and drink for negotiations, cleaning), and may be paid secure though very low wages. For some children, such work is an apprenticeship (though there is no reason why such apprenticeships should replace formal school because the children of rich traders participate in both activities).
[xciv] Female education leads to the lowering of birth rates (though not to reduced gender discrimination in regions of South Asia where this is practised (Das Gupta, 1987; Jeffery and Jeffery, 1998). But it is primary rather than tertiary education which achieves this result.
[xciv]Harriss-White, 1996, Table 7.1 , p 266
[xcv] The women's branch of the Lion's Club, a global philanthropic organisation like the Rotary Association.

[xcvii] "Coolie" in Tamil means wages for casual labour
[xcviii] Harriss-White, 2005
[xcix] See Gooptu and Harriss-White, 2000.

[c] The Kalam is the drying yard of a rice mill.
[ci] A detailed comparison between northern Tamil Nadu in 1973, 1983, 1993 and 2007; Coimbatore in 1980 and W Bengal in 1981-2, 1990 and the 21st century could be made from published accounts. App2T14 is a start in this direction.
[cii] Harriss and Harriss, 1984
[ciii] Harriss-White, 2006
[civ] Bores at 200 feet hit brackish water.
[cv] Also see Basile and Harriss-White, 2000
[cvi] We have little evidence of risk, losses , instability and the collapse of firms though we know this all happens particularly to small firms.
[cvii] Harriss-White and White, 1996
[cviii] This is not a universally correct perception. The local Agriculture Department for instance spends 15% of its budget on salaries, the remainder going to subsidies on fertiliser for demonstration plots, HYV seed, bio-fertiliser and weedicides (D.A.O., Pers Comm, 1995).
[cix] Locally estimated by producers at averaging 2-2.5 tonnes of paddy per acre in 2010.
[cx] Whereas the price difference between wetland and dryland is 2:1, that between road side and off road is 3 or 4:1.
[cxi] The Dalit share-cropper bears all the costs of production. At harvest the entire crop is given to the owner who mills it and returns 50% of the rice, keeping all the husk and bran.
[cxii] In the 1990s we gathered evidence that drinking water hand-pumps were caste-segregated; that SCs constructed their own temples due to being barred from entry into village ones. SC children were barred from entering main village schools, the sites of Noon Meal disbursements were awkward to access by them and staffed by members of the locally dominant MBCs rather than by SCs. Despite the closed shop of sanitary work (where SCs, stripped in 2002 of their hereditary rights to this kind of state employment, nevertheless vigorously guarded this work since they could earn Rs 5,000/m gross (though Rs 1,500/m was reported as the actual 'net' take-home pay)), there were acute entry barriers to the non farm economy such that SCs worked in the fruit and vegetable trades (because these goods have skins that will be transformed before consumption) and the smallest 'bunk' shops. Banks were reported not to extend credit to SCs, though SCs were reported - in earlier rounds as able to borrow from banks. Urban restaurants persisted in using banana leaves as plates to avoid other patrons having to use (i.e. be contaminated by) utensils used by SCs.
[cxiii] A very few have used savings from teaching or the army to set up in business: tea-shops, fruit and vegetables or pumpsets. It is 'urban dalits' who have 'pulled' away.
[cxiv] Fouillet, 2009. Banks are now accepting jewel loans.
[cxv] See Polzin, forthcoming
[cxvi] See Stanley, 2003 and forthcoming on local pawnbroking.
[cxvii] Low prices are due to the impact of world market prices to which the domestic economy is now open; plus the effect of bumper harvests in 2006-7.
[cxviii] The biggest private financier is a dalit who accumulated through vegetable trading and labour contracting – and who runs a *kutta* panchayat (an informal dispute resolving institution, generally using private protection power to enforce decisions) (M.V. Srinivasan, 2009, Pers. Comm.).
[cxix] Kaur, Ghosh and Sudarshan, 2007 on Punjab

[cxx] Breman, Guerin and Prakash, 2009. Though the kind of bondage they report is close by, it has not yet been seen in Arni.

[cxxi] From expanding rice processing clusters at Kangeyam, Kallakurichi, and Ayodhyapattinam near Salem.

[cxxii] Western consumers can no longer displace and exoticise the production relations of rice in the region but are directly involved in exploiting them. In 2008 exports were banned at the height of the price crisis. From 2008-09 the rice prices in the southern food zone increased by 69%, the bulk of this rise thought to be due to the behaviour of the distributive margin controlled by the mercantile class (Ghosh, 2009)

[cxxiii] Messadri, 2010

[cxxiv] See Schmitz and Nadvi, 1994 on collective efficiency

[cxxv] Chatterjee, 2008, after Sanyal, 2007.

[cxxvi] As do those of the bus owners and the Lakshmi Saraswati textile mill which is north of the river defining the town's boundary at some remove from the town (and never part of this long-term research) but which has now been engulfed by suburbs.

[cxxvii] Arni's Muslim sweets dynasty whose rurally sited Teacher Training Institute had fallen on hard times due to malpractices, has re-opened it, doubled its landholding and added and opened two private schools.

[cxxviii] M.V. Srinivasan reports that a private school has been set up by some 14 paddy-rice business families, and staffed by teachers, some of whom may moonlight from government schools (Pers. Comm, 2010).

[cxxix] In Tiruppur too there is a rentier turn and not confined to the accumulation of employers. ' 'Local' workers are no longer [mere] workers. Instead (some) have become rentiers of various kinds – labour contractors, building single room row houses for migrant workers and living off rents, entering as rentiers services that feed into knitwear production' (M. Vijaybaskar, Pers. Comm. March 2010).

[cxxx] Harriss, 1984

[cxxxi] It supplies free - or heavily subsidised - agricultural electricity.

[cxxxii] As with so much of our machine society, it embodies a contradiction. At the micro-level it improves the kitchen atmosphere and reduced health risks. At the global level it increases CO_2.

[cxxxiii] Harriss, 2001

[cxxxiv] Kim, 2008. Whereas in the 1990s alcohol was retailed under strict regulation in a handful of shops in the town, by 2010 there were retail outlets in villages.