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### Commercialisation, Commodification And Gender Relations In Post Harvest Systems For Rice In South Asia

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*When the output of a product that has been the basis of subsistence and social reproduction - as rice has been in Asia - expands, the marketed surplus rises disproportionately to the growth rate of production. Post harvest activities that were part and parcel of the reproductive activity of household labour (in the hands and under the feet of women – even if under the control of men) then also become commercialised. Firms expand in number and labour markets sprout up as firms become differentiated in size, scale and activity. Food security comes to depend not only on the market but also on the social and political structures in which markets are embedded. One of these social structures is gender.*

*Two aspects of this gendered process are explored in this essay. The first is 'productive deprivation' which was argued by Ester Boserup to be the most notable impact of development on women. Using field evidence comparatively from four regions of South Asia from the 1970s to the present, the impact of the waves of technological change accompanying concentration and differentiation in rice markets is shown to be strongly net labour displacing and strongly biased against female labour. Nevertheless productive deprivation is class specific and masculinisation still co-exists with a high general level of female economic participation. To start to explain why productive deprivation is class specific the essay offers a development of Ursula Huws' theory of commodification and its impact on women in advanced capitalist conditions - elaborating it for conditions of mass poverty. Poverty is shown to limit the relevance of this gendered theory. Poverty is also an important reason for the persistence of petty commodity production and trade and petty service provision. Under petty production women are either self employed or unwaged family workers for men who are themselves not fully independent but frequently dependent on money advances from commercial capital. Evidence from West Bengal in the 1990s - where the growth of rice production has eased up - shows by contrast that the process of commodification has not eased up at all. Products, by-products, intermediate and investment goods, waste, public goods, state regulative resources and labour are all relentlessly commodified. The process creates livelihoods mainly for young, low caste men. Low caste women dominate itinerant retailing, directly dependent on money advances from male wholesalers. Women are being displaced from the rice mill labour forces in which economies of scale are pitched against unwaged work in petty production. The subordinated status and double work burden of women in petty production is well known, as is their economic dependence and social insecurity. (rice - masculinisation – commodification – comparative regional analysis – comparative institutional analysis)*

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## 1. Introduction

For forty years the production of rice grew worldwide at rates greater than that of population. Rice production more than doubled – from about 265 m tonnes in 1961 to about 560 in 2001<sup>1</sup>. When the output of a product that has been the basis of subsistence and social reproduction - as rice has been in Asia - expands, the marketed surplus rises disproportionately to the growth rate of production. Post harvest activities that were part and parcel of the reproductive activity of household labour (in the hands and under the feet of women – even if under the control of men) then also become commercialised. Firms expand in number and labour markets sprout up as firms become differentiated in size, scale and activity<sup>2</sup>. In a value chain or marketing system, a range of technologies, scales, kinds of organisation and regulative norms and practices co-exist in a stable fashion. ). Food security comes to depend not only on the market but also on the social and political structures in which markets are embedded. Gender relations pervade these regulative social structures. While the gender division of tasks in rice production in India shows a structural diversity<sup>3</sup>, that of the post harvest system appears from existing evidence to be much less diverse. One of the strongest patterns in the post-harvest system takes the form of a trend. While the absolute number of female livelihoods generated in the post-harvest system may be decreasing, static or increasing, the proportion relative to those of men is declining over time. Control over commercial assets is dominated by men and technological change displaces female labour disproportionately to that of men (Harriss-White, 2004a).

This essay is an exploratory reflection on the process of masculinisation of the markets and the post-harvest system for rice. It is a social process that was first modelled in general terms and descriptively as early as 1972 by the Danish economist Ester Boserup. She even gave it a name: *productive deprivation*. In this essay, first it will be argued that Boserup's productive deprivation is class specific and that masculinisation co-exists with a high level of female economic participation. Second, it is found that the process of proliferation of markets and commodities is instituted in ways which have perpetuated petty scales of production and unwaged women's work in conditions of economic and social insecurity.

## 2. Commercialisation and Productive Deprivation

'Economic and social development unavoidably entails the disintegration of the division of labour among the two sexes traditionally established in the village. With modernisation of agriculture and with migration to the towns, a new sex pattern of productive work must emerge, for better or worse. The obvious danger is, however, that in the course of this transition women will be deprived of their productive functions, and the whole process of growth will thereby be retarded' wrote Boserup (1989, p5).

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<sup>1</sup> Rai 2003

<sup>2</sup> A rice marketing firm may do one or a combination of the following activities: buy, sell and broker, store transport and process, and finance production, trade and post-harvest processing. Instead of being patterned, the activity profile of firms studied so far in India show tendencies towards complexity, diversity and uniqueness (Harriss-White, 1996)

<sup>3</sup> Mencher and Saradmoni, 1982; Kapadia, 1993; Jackson and Palmer-Jones, 1998, Jackson, 1999

The process of deprivation proceeds from the agriculturalisation of the peasantry and the stripping of crafts from the work of agricultural households. Craft production becomes specialised. It increases in scale, production being organised either in households (and according to household divisions of task and authority) or through male wage labour. As the division of labour deepens and exchange becomes fundamental to social reproduction so tasks are progressively defined by categories of worker, in which skilled categories are dominated by men (op.cit. pp 69-76). Boserup then shifts set to towns. South Asian towns are male domains, either through selective male migration or because of the seclusion of women, or both. The prospects for women's work in towns is related to the rural gender division of labour in the non-farm economy so that while in north India 'men even do the shopping' (op.cit. p 86), in the south, in what she recognises as the 'semi-male town', retail trade may be in the hands of women. However, 'to most Hindus the idea of female participation in trade is an abomination' (op. cit. p 87)<sup>4</sup> and 'modern sector' bureaucracy, industry and markets are dominated by men. Even in South India, she observed a 'deepening cultural resistance to women's participation in trade' (op. cit. p 98). Female work is then confined to unsecluded women from the lowest castes who provide artisanal, home-based, petty production plus a variety of services. Boserup shows convincingly that women are progressively marginalised from wage work in factories and that female activity rates decline with development (op.cit. p 192).<sup>5</sup> Both demand and supply factors play their role in this. Employment regulations for women increase their cost while the inflexibility of modern industrial discipline is incompatible with the rearing of children (op.cit. pp 110-17).<sup>6</sup> She reaches a powerful conclusion. 'If women are hired at all... it is usually for the unskilled, low-wage jobs, men holding skilled jobs. Thus the roles assigned to men and women even in the modern sector indicate a widening difference between the productivity and earnings of each' (op. cit. pp 139-40).

Boserup brought broad brush global evidence to bear on her thesis. Given the spectacular growth of female employment in the Indian service sector, to test for productive deprivation within a single commodity-branch of the Indian economy might be considered inappropriately restrictive. Yet rice is the most important agricultural commodity and a fundamental part of India's agrarian structure, food culture and food security. The steps involved in the marketing, processing, storage and transport of rice are set out in Appendix I (which is heavily derivative of Kaur, 2004).

### 3. The commercialisation and masculinisation of the post harvest system

There is rather little evidence about the gendering of the rice markets of India. What exists is not continuous in time, it is patchy in space and the product of individualistic

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<sup>4</sup> By this Boserup even then must have meant upper caste Hindus.

<sup>5</sup> This process of marginalisation continues to this day (Hensman, 2000), despite the rise in female employment in S. Asian export processing zones.

<sup>6</sup> Demand disincentives include rules on maternity benefits, child care and equal pay. Supply disincentives include fixed working hours and the location of sites. Pearson (1994, pp339-58) comments critically that employment regulations do not act as disincentives where they have no reach in the vast informal sectors of developing economics. Nor are sites and times a constraint under flexible production.

research methodologies. It can however be used to explore the questions of masculinisation and of productive deprivation. First, the class positioning of women will be examined using evidence for Tamil Nadu and West Bengal in the 1980s and 1990s<sup>7</sup>. Second, the impact of technical change on such institutional arrangements will be explored with evidence from Bangladesh in the late 1970s, Tamil Nadu in the 1980s, and West Bengal and Punjab in the current era<sup>8</sup>.

### 3.1 Female Participation and Class Positions towards the end of the 20<sup>th</sup> Century

Grain markets are strongly regulated through gender relations. Women participate in paddy-rice markets in four ways, according to their caste and class position.

i) Women from *pauperised*, female, female-headed and/or low caste *petty producing and trading households* are confined to seasonal operation, to subsistence orientation (and to the simple reproduction of their households), to particular positions and activities within the post-harvest system (especially processing and retailing), localised territorial linkages, weekly marketplace sites and unlicensed and/or illegal transactions in cash rather than on credit. Their participation is conditioned by the life cycle and when children are no longer dependent, these women tend to stop trading. They experience marketplaces as physically dirty and ritually polluting places; so they regard non-participation as ‘development’.

ii) Female *casual wage workers* from the assetless class form the largest substratum of labour in grain milling and premilling processing. In South India, marketing systems rest on the backs of these women; they form from 40 - 60% of the labour force<sup>9</sup>. The average mill employs 15 but up to 70 have been encountered<sup>10</sup>. Outcaste women are allowed to turn paddy on the large drying yards because the kernel is still protected from ritual pollution by its husk. Women are debarred from being mill mechanics and it is unusual to find them handling heavy consignments of scalding paddy during the parboiling process. Female *coolie*<sup>11</sup> is prevalently but incorrectly regarded by mill owners as a household supplement for their employees. Wage differentials of two thirds to a half that of male wages in rice mills in no way reflect gendered productivity. (In any case this would be tantamount to impossible accurately to measure since the division of tasks in milling is sex-sequential.) Female mill work is almost everywhere deliberately casualised. The sexual harassment of the mill work force by management is not unknown.

iii) In *smaller family firms*, unwaged female family members have provided that part of the wage to labour in trading firms which takes the form of prepared food. (With the commercialisation of labour, however, the practice of payment in tea and meals is dying, or itself being commercialised). The female family labour of a rice milling and trading firm will almost certainly "subsidise" some of the costs of reproduction of their male labour – force such that the social reproduction of male labour is not entirely born by female labour within working class households.

<sup>7</sup> Harriss, 1993; Harriss-White, 1996, 1999

<sup>8</sup> Harriss, 1979; Harriss-White, forthcoming; Ghosh and Sudarshan 2004; Kaur 2004

<sup>9</sup> Harriss-White, 1996, Table 7.1 , p 266

<sup>10</sup> The female casual labour force can number up to 700 in cotton ginning and wholesaling firms (see Harriss-White, 1996, ch7).

<sup>11</sup> “Coolie” in Tamil means wages for casual labour

iv) A typical *milling and trading firm* is owned by the males of a joint family and practises a diversity of trading and transformation activities, as a consequence of which there is a complex of patriarchal relations between of male family labour together with the hiring of a permanent male labour force and casual labour of both sexes.<sup>12</sup> Women in large milling and trading firm-families are used for the caste-based reproduction and expansion of firms first by means of their dowries on marriage 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. In the first case, the higher education of such women is a good example of the economic inefficiency of gender institutions. For such women, education is a status good and leads neither to economic participation nor control over assets or over major economic decisions.<sup>13</sup> Women are positioned according to a paradigm of service and subordination in which their piety is factored into a business family's reputation.<sup>14</sup> The prevalent lack of ownership or control over property or over any collateral which determine creditworthiness makes the economic role of women belonging to the accumulating oligopolies an indirect one, in contrast to the role of poor women in petty trade and the casual labour force. It is clear that women in business families do indeed experience the productive deprivation of which Boserup wrote. However, in almost the entire post-Independence period – and with few exceptions throughout the subcontinent – India's rice markets have depended on low caste female toil while the control of economic assets, income and profit is by higher (business) caste men.

### 3.2 Masculinisation

Institutional change is argued by orthodox institutional economists such as Oliver Williamson (1985) to be driven by changes in relative prices, which themselves may be the consequence of technological change or transfers. Of this process of technical change Partha Dasgupta predicts: "Where household demand for goods and services reflects male concerns, we would expect technological inventions in farm equipment and techniques of production to be forthcoming in response. Where cultivation is a male activity...we would not observe much in the way of process innovation in threshing, winnowing, grinding grain and preparing food." (1993, p 335). Three case studies will be used to interrogate the relationships between technical change, prices and gendered institutional change : Bangladesh in the late 1970s, Tamil Nadu in the 1980s and W. Bengal and Punjab in the early 21<sup>st</sup> century.

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<sup>12</sup> Harriss-White, 1996. 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. Lastly, 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).

<sup>13</sup> 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.

<sup>14</sup> See for example Laidlaw's 1995 study of Jain families.

### 3.2.1. Bangladesh in 1978: the first long wave of labour displacement

As late as the late 1970s, two thirds of Bangladesh's paddy was milled by women (in their homesteads (*baris*)) by means of the foot operated wooden hammer mill (the *dheki*). One to two women could de-husk a maund (37.3 kgs) a day. Women were also completely responsible for pre milling processing<sup>15</sup>. Parboiling originated as a form of short term under-water storage when paddy was harvested during the monsoon. It also gelatinizes the rice kernel – with many nutritional benefits<sup>16</sup>. Since one woman could process 4-5 maunds a day, *dheki* husking was the constraint on the scale, a fact of no great significance while the preparation of paddy was simply for subsistence of other processes. Women also winnowed and organised the use and disposal of husk and bran. Not all this labour was unwaged. Estimates vary according to the region but between 5% and 60% of households hired women out – and about 15-20 % of households hired women in for the production of rice for subsistence. Paddy - processing wage-labour was paid in combinations of cash, rice and meals. These labouring women were among the most disadvantaged: pauperised widows, divorcees, and wives of sick and / or landless husbands.<sup>17</sup> In the late 70s, roughly 2.7 million woman-years of employment was estimated to be generated by the domestic processing of paddy for the population of 20 m working women<sup>18</sup>.

By the late 70s, about 20% of paddy production passed through small huller mills (the 'Lewis Grant huller', adapted in the early 20th century from a coffee grinder). The huller was cost effective and being diffused widely in the subcontinent following state-regulated rural electrification. Huller mills were growing at 7% p.a., sustaining local "innovation rents" with rates of return averaging 70%. These mills were operated by men who supervised a team of up to 10 women working on the drying yard, sieving the residues and separating husk and bran. The money costs of hulling were one 12<sup>th</sup> that of *dheki* processing. Productivity per women in the hulling mill was up to 33 times that of the *dheki* and in pre-milling processing was 1.5 times that of the *bari*. The result was a large scale net social displacement of labour. The first wave of mechanised technology was the most female-labour-displacing of all because it replaced foot-operated machines (or elsewhere in South Asia the hand operated pestle and mortars) worked entirely by women<sup>19</sup>. This uncelebrated process destroyed tens of millions of seasonal livelihoods for women in the subcontinent.

### 3.2.2 Tamil Nadu in the 1980s: the second wave

The modernization of rice milling is less well known than the Green Revolution in production, but the two processes happened side by side. Since the late 1960s, technical change in rice processing has involved foreign transfers and imports of technology developed for the radically different 'factor endowments and ratios' of the U.S. and Japan. This was both preceded and accompanied by foreign technical

<sup>15</sup> Soaking (up to 48 hours), parboiling in small batches ( 30 minutes to 3 hours) drying – raking and bird-scaring- ( 1 to 3 days) (Harriss, 1979).

<sup>16</sup>Parboiling insures against the vagaries of rainfall; it reduces the proportion of broken rice grains and raises the rice recovery to 72%; the kernel absorbs proteins, vitamins and minerals and the bran layer absorbs oil; the kernel becomes more resistant to pests in storage and loses fewer solids to gruel in cooking.

<sup>17</sup> Arens and Van Beurden 1977; Wood 76; Adnan, 1976

<sup>18</sup> Harriss, 1979

<sup>19</sup> The distress consequent to displacement is most acute in the north of the subcontinent, see Greeley, 1987.

assistance (the quality of whose scientific advice left a great deal to be desired<sup>20</sup>) and domestic Indian legislation *outlawing* the ‘indigenous’ technology of the huller in 1970 (Harriss and Kelly, 1982). Blinkered technical appraisals, indicating that the new technology increased the productivity of both capital and labour, wrenched mills from their institutional and logistical contexts and led to the adoption/imposition of imported packages. The package included bulk parboiling (sometimes pressure-parboiling), conveyor-belt transport, paddy cleaning, rubber-roll shelling and cone-polishing. State institutions (co-operatives and parastatals) regulated these Modern Rice Mills (MRMs), but in isolation from the other state and private institutions of finance, pricing, procurement and logistics upon which the package had to depend. The low capacity utilisation and higher per unit marketing and processing costs that were the inevitable early result led to their long term dependence upon state subsidies.

In India as a whole, meanwhile, wherever a marketed surplus was being generated, the ‘illegal’ huller had expanded in numbers - from about 34,000 in the early 60s to over 100,000 in the early 80s<sup>21</sup>. Replacing female labour by non-renewable energy priced at levels which reduced processing costs and increased labour productivity, the huller restricted demand for female wage workers to drying paddy and attending to the mill (Table 1). The introduction of the Modern Rice Mill - under state patronage and unable to compete against the huller without state subsidy - generated the second wave of labour displacement. Like the first, this was also disproportionately biased against women - as seen in Table 1. Small and doubtful gains in technical efficiency have clearly been made at the expense of the most vulnerable segments of society, who can least forego employment (Harriss, 1976).

‘The market’ resisted the original technological package (a rational response) but has over the years adopted the techniques of ‘Modern Rice Milling’ in stages and by component. This has resulted in economies of scale and accentuated the structural concentration of ownership of assets in marketing systems. These assets are male - controlled.

### 3.3.3 West Bengal in the 21<sup>st</sup> century: the third wave

By the start of the 21<sup>st</sup> century the (no doubt under-estimated) India-wide distribution of hullers and modern mills was extremely uneven - see Table 2. In the largest rice producing state - W. Bengal - only 9% of mills were modern ones; in the southern rice-producing belt the proportions of MRMs varied from 16-60%; in the rice exporting belt of the north west MRMs accounted for 30% of mill numbers in Punjab and 55% in Haryana; while in Bihar they amounted to 1%. The regional distribution of technologies matters because of its consequences for female livelihoods. While to my knowledge there is no rigorous research explaining this distribution, the factors that might need taking into account include the agrarian structure which generates the marketed surpluses supplying MRMs, shapes demand for custom milling for subsistence and even shapes residual demand for pounded rice; the location of final demand (in the northwest, rice tends to be an ‘inedible’ cash crop which is bulked for relatively large scale processing and export to other regions); the extent of state subsidies; and the regulation of the relation between MRMs and the public distribution system.

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<sup>20</sup> Harriss 1976; Pacey and Payne 1984

<sup>21</sup> Gita Sen uses the Bulletin of Food Statistics to indicate 91,000 mills in 1975, (Sen, 1983, p22)

In W. Bengal, rice mills currently process a rough estimate of 20-25 % of production, about half of which is sold to the Public Distribution System. Changes in the labour process in rice mills are differentiating this economically powerful sub sector of MRMs. The ratio of family labour to other kinds is *increasing*. The displacement of wage workers is reducing the total wage labour force to a greater extent than the tendency to professionalise the tasks carried out by family members has added to it. The absolute numbers of regular, salaried or ‘permanent’ labour has declined by 50% in the period 1990–2002. Some 70% of labour is now on casual contracts (only half of which are thought to be registered on Muster Rolls and therefore eligible for Provident Funds or Employees State Insurance<sup>22</sup>). Unions do not claim labour rights under the framework of the Labour Laws. Instead they negotiate directly with bosses about contingent rights at work and organise resistance to incremental lay-offs. Their limited set of insecure rights varies from region to region. Labour supply is regulated by ethnicity, and labour compliance through the use of physically oppressive technology which ensures submissive behaviour.

The latest technological components (husk-fired mechanical driers (HFMD)) substitute for the free public good of the sunshine, reduce the pre-milling processing from 3-5 days to 24 hours and increase the milling season from 250-300 days to the entire working year. While enabling the harvest to be de-linked from the cycles of the monsoons and helping supply to keep pace with the appetite of the mill, the weather-proofing technology also satisfies the need to work at high capacity utilisation to cover the increased fixed costs component in ever more highly capital intensive ancillary machinery. MRMs are still eligible for subsidised loans for technical upgrades. HFMD have had a massive impact on the labour process (see Table 3), the burden of displacement being borne entirely by female casual labour. This on-going displacement also pre-empts the organisation of female labour. Even though wages paid to casual labour are gender-neutral, the system is increasingly male.

Women are still found working without wages for the homestead based pre-milling processing of custom-milled subsistence rice; and female labour markets have started to be formed for the same physical process on the slightly scaled up micro-conglomerates of capital that are forming in and around the huller mills. Hullers have spread like wildfire after being de-regulated in 1996. They are thought to process 80% of rice<sup>23</sup>.

#### 3.2.4 Punjab in the 21<sup>st</sup> century: an almost completely masculine labour process

By contrast, only 2-3 % of production goes through custom mills in Punjab, the rest passing through rice mills. Most of these operate on contract to a range of state trading agencies – see Table 4<sup>24</sup>. Since the 1960s, Punjab has been a significant net contributor to the Public Distribution System. The system of rice mills is stratified by caste and by regulative framework (a minority being owned and managed by co-operatives, basmati mills being owned by Hindu business castes while a minority of contract mills have been set up using Sikh agrarian capital). The labour process has

<sup>22</sup> Labour regards this as a tax because so few are able to redeem it at 60 if they live that long.

<sup>23</sup> Harriss-White, forthcoming

<sup>24</sup> rice mills in Punjab mill basmati rice exclusively for export while some 1900 are agents for FCI, PUNSUP, Markfed, Punjab Food and Civil Supplies Dept and ancillary industries owned by the State and Central Warehousing Corporations (Kaur 2004).



developed as almost entirely male. It shows extremes of differentiation (Table 5). Annual returns in 2002 vary from Rs 4 –11.2 crores per business family in the basmati export sector down to Rs 17,000 for male rice mill labour – a factor of roughly 1000: 1. By far the biggest component of the labour force (86%) consists of casual, rightless male wage labour, unentitled to Bonuses, Provident Fund, Employees State Insurance or Diwali perks. Wages are agreed through mutual collusion in Trade Associations and without consultation with labour. The Minimum Wage (Rs 85) is paid - but on piece rate for a day of about 12 hours rather than the 8 stipulated in law. Almost all such labour is from the landless agricultural labouring class, from Backward Castes, Scheduled Castes and Tribes originating from Bihar and Eastern UP. Organised through kinship and locality and recruited in groups via contractors, the labour force is disciplined through a combination of on-site residence and debt. The continuum of work status required by rice mills (Tables 4 and 5) thinly disguises the fact that the vast majority of the labour force is working on informal and insecure terms and conditions - with no rights to work, at work or to social security. Women, invisible in Punjab, absent from the accounts of milling costs, located in villages from which migrant mill workers originate, are key not only to the intergenerational reproduction of this labour but also to its day to day maintenance 'in time of need' when workers are incapacitated from work, income plunges and they are forced home.

*To sum up:* Pace Dasgupta, these comparative analyses of the dynamics of rice processing show that massive technological change and process innovation has taken place in the female activities of 'grinding grain' and 'preparing food'. Against Williamson's hypothesis, masculinisation is not a rational response to relative prices. The newest technical components are only cost-effective at market prices under conditions of high capacity utilisation which are difficult to achieve without logistical and price support (subsidies) from the state. Yet, inexorably, they are being adopted in the very reverse of a green-revolutionary development<sup>25</sup>. While Douglass North, acknowledging workers' agency, has hypothesised that technology is generally adopted so as to maximise the use of lesser skilled workers who do not have the bargaining power to disrupt production (1990, p 65), the case studies show that technology and modes of organisation are transferred which do away with precisely those people least capable of bargaining or of withholding labour - female labour. This is hard to explain. The expulsion of armies of low caste women from the rice markets may be more of a status-reducing expression of the contaminating caste relations of a merchant than it is a status-enhancing expression of patriarchy.

While the post-harvest activities of north-western regions, of strategic importance to the state-regulated food security system, have *always* been highly masculine, the question remains: what work do the women whose livelihoods are displaced find ?

In the first case considered here, *dheki* operating women and their households faced a major food security crisis – one no less serious for being dispersed in time and space. The *dheki* labour displaced in Bangladesh in the late 70s and 80s found exiguous work making quilts, grinding tobacco or tending poultry<sup>26</sup>. In the complete absence of social security, so many took to begging that the state expanded Food for Work infrastructure schemes - at times with foreign food aid. The rice mill labour being

<sup>25</sup> A revolutionary component should increase output per unit of input and thus lower total costs per unit of output.

<sup>26</sup> See Greeley, 1987

displaced at present in W. Bengal seeks refuge in employment in brick kilns, in construction and in the residual shock absorber – agriculture. There is now overwhelming evidence that S. Asian agriculture is being feminised (Kapadia and Lerche, 1999). **Pace** early predictions about the female-labour-displacing impact of mechanisation in paddy cultivation <sup>27</sup>, this earlier trend is being reversed and it is male labour that tends to be displaced <sup>28</sup>. This widely noted feminisation has been attributed to the male labour displacing impact of mechanisation in lift irrigation, ploughing and harvesting; to male withdrawal from joint tasks performed by both genders; to increasing local off-farm income-earning opportunities for men<sup>29</sup>; and to the tendency for men temporarily to migrate in search of work (women often being prevented from doing this by child care and other gender-inelastic, domestic work). From the argument of this essay, it is not simply that male off-farm livelihoods are pulling men from agriculture, it is that the displacement of women from female off-farm livelihoods is pushing them back to agriculture and helping to depress female wages there <sup>30</sup>. Most definitely marginalized from rice processing, they are not necessarily and always marginalized from productive activity; but their incorporation is on adverse terms.

### 3.3. Conclusion: Masculinisation and productive deprivation in rice processing

This research confirms that men are consolidating their hold over the economic power points in rice markets and that women in elite business families are egregious examples of productive deprivation. Boserup predicted a widening gender gap in productivity, which is confirmed in this sector study. So is another gap she did not examine: a greater range in the returns available to male livelihoods in rice markets – in Punjab up to 1000:1. However while Boserup's theory was society-wide, the case material shows that women still provide much more than 'artisanal...production and a variety of services' (1989, p192). In regions of southern India they still provide the bulk of the wage work force. Though the regions of the North West have always had a masculine labour force, elsewhere, each wave of incremental technical change has led to the net displacement of labour, but has been biased hugely against casual female labour. Whether or not this displacement destroys livelihoods or 'merely' reduces drudgery does not only depend on the degree of commercialisation of the product. It also depends on the extent to which the labour relations of post-harvest processing have themselves become commercialised. Where it destroys livelihoods in rice processing, women are pushed out into work on casual contracts and usually at under-nourishing rates of pay.<sup>31</sup>

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<sup>27</sup> See Mencher 1985

<sup>28</sup> Da Corta and Venateshwarlu 1999. The precise gendered impact will depend on the tasks mechanised, the prior gender division of labour and that associated with any change in cropping pattern.

<sup>29</sup> There are strong barriers to female entry into the 'non farm rural economy' – whether it is mining of weaving and especially when migration is necessary for wage work. And export processing zones, where female labour is incorporated into the most oppressive work in global value chains (Jackson and Pearson, 1999) still create a relatively small proportion of a developing country's livelihoods.

<sup>30</sup> One of the hypotheses considered for the period of the 30s to the 60s by Gita Sen (1983).

<sup>31</sup> The jury is still out over the debates on whether lower pay for women than for men reflects productivity (impossible to verify in sex sequential production systems) – or whether it reflects supply conditions where work is a residual which needs to be compatible with the priors of household reproductive tasks – or whether markets, rather than being liberating, are an independent field of patriarchal oppression or a combination of these factors.

The state aids and abets this process. It uses the carrot of incentives (subsidies for technological upgrading, which concentrate assets and differentiate the labour process). It uses the stick of disciplinary regulation (outlawing an appropriate milling technology until recently); and it creates a nexus of rents which sustains a structure of accumulation in family businesses in which the rights of labour are avoided and evaded as assiduously as are tax obligations.

However, the social realist economist Tony Lawson has made a case we cannot ignore that there is one changing reality with many theories of it, each of which are not only part of this reality but partial in their scope (Lawson, 2003). Ester Boserup's argument is steeped in modernisation theory. Its conceptual currency is the deepening of the division of labour, the advent of factory production and the definition of a rural sector different from that of towns. It fails to examine the specifically *capitalist* logic of this process. This has now been innovatively theorised in a general way by Ursula Huws (2004). In the second part of this essay, her theory of gendered commodification under capitalist production relations is developed in an application to Indian rice markets.

#### 4. Capitalist Commodification

“ It is a law, based on the very nature of manufacture,.. that the transformation of the social means of production and subsistence must keep extending.” (Marx, 1999 (1867) p222).

In the second part of this essay, we build on the exploration of the changes in gender relations, which occur while rice is commercialised and while the technologies of processing are ‘modernised’, to an examination of the gendering of the process of commodification of rice in India. To help us do this, we will introduce and develop the theory of capitalist commodification offered by the feminist sociologist of labour, Ursula Huws. Capital does not only ‘keep extending’ according to a logic of expanded reproduction, which requires a continual increase in consumption and investment and which leads to both the concentration and centralisation of capital. Huws suggests that capital also ‘keeps extending’ by non-stop commodification.

The process of commodification involves a sequence of relations, the first few of which are familiar from Boserup's account. First, un-valorised productive and reproductive tasks are carried out for their essential usefulness – their use value. They are then replaced by craft work for sale and/or by paid services. In turn these are replaced by mass produced commodities in conditions with economies of scale. In the process workers are deskilled. New mechanisms of control ‘taylorise’ the production of these goods. These commodities in turn require new services. These are also industrialised, involving further de-skilling along with the managerialisation of professional services. Each wave of commodification is accompanied by new technology. This new technology is *not* immiserising or labour displacing, because of the creation of new commodities including commoditised forms of services which require labour. This demand continually stimulates the labour market. As a consequence of this process, the home is transformed from a site of production of use

value to a site of the consumption of commodities (op.cit. p18). But not quite – and not only.

First, since capital strips itself of all unprofitable tasks, new forms of work (unvalorised tasks / work for use value) are loaded onto the consumer.<sup>32</sup> Huws adopts the term *consumption work* for this activity and argues convincingly, after Gershuny, that this process of industrialisation of domestic work does not increase leisure time.<sup>33</sup> This is because when the wage is no longer a family wage, women have to work in order to pay for the ever wider range of reproductive technologies in commodity form which replace production for use (including pleasure). Public goods and services and profoundly influential ideologies of cleanliness, pleasure, and of women as providers of domestic peace and care all make it difficult for people *not* to possess these '*reproductive commodities*' (wet grinders, fridges, washing machines, etc). Due to the home being a special site where these commodities are owned either individually or by the corporate household, there will be a structural excess capacity in them nationwide. As the division of labour and the process of reproductive commodification deepens, consumers have increasingly less knowledge about the commodities they use and the commodities themselves also become increasingly dangerous (op.cit. pp 44-45). From this transformed consumption work evidently come requirements for yet more specialised services, which themselves become commodified e.g. the semi-automated systems for the repair and maintenance of domestic appliances organised for European consumers via call centres in India – and so the cycle of commodification and transformed consumption work continues.

Second, since capital always searches for the lowest cost and most docile labour, the home becomes a new site of wage work and of the production of commodities (op.cit. p33). IT enables the control of out-sourcing and creates new forms of alienation – under which the worker may own the means of production, the machine, while the terms of work are still set by the employer.

There are, at the least, two consequences relevant to the argument about gender and rice processing in South Asia which has been developed in the first part of this essay. First the new technology displaces jobs disproportionately allocated to women (in Huws' European case studies, these are clerical jobs). It leads to the degradation of work (due to the reductive nature of commodity production : physically repetitive, mentally restricting and constraining social relations). It also leads to conditions in which it is very difficult to organise labour, and to job losses (as outsourcing is spatially and socially relocated). Second, this isolated wage work has implications for the physical and mental health of (women) workers stuck in precisely the same process that requires them to be ever more central to the provision of domestic harmony. Huws calls this the *Taylorisation of domestic life* (op.cit., ch 11). The increasingly frequent breakdown of the family unit exacerbates the condition of

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<sup>32</sup> Huws gives examples of collecting goods from supermarket shelves; bagging your own vegetables; self-service auto fuel stations; automatic cash dispensers (op cit. p27).

<sup>33</sup> Leisure, which used to be spent creatively – such as the enjoyment of active music-making – has been completely replaced by pleasure-consumption packaged through commodities such as TVs, CDs, Ipods, etc.

women; and these conditions persuade a small but growing number of women (and men) not to form families at all<sup>34</sup>.

While the theoretical focus of Huws' analysis is the working household under advanced capitalism, Huws herself makes global connections between the twin processes of commodification and accumulation and the search for cheap labour, the outsourcing of production and the transfer of (cyber-) work to women of different classes (as in highly educated call centre labour in India) and/or different stages of life (as with unmarried women in Bangladesh and China) and in conditions where rights at work and rights to social security are absent (as in sweatshops everywhere).

In certain ways, Huws' theory resembles Boserup's theory, but their predictions are different. Both are concerned with female agency in the context of threatening processes. Both describe the process of industrialisation of craft production but Boserup argues that the productive labour involved is progressively disproportionately male whereas Huws reasons that the waves of commodification use female wage workers not only in factory production but also sited at home. For Boserup, if women in agrarian societies are educated, their education does not result in mass entry into the labour force, quite the reverse. Women are forced progressively into the condition of 'productive deprivation'. Boserup argues that productive deprivation creates 'domestic tension'. Huws not only acknowledges such tension in principle, but deconstructs the social tensions resulting from the transformation of the purposes of the home (first from the site of production-for-use to the site of consumption; and then in addition to the site of women's wage work).

Do their predictions differ because developing countries (Boserup) are different from advanced ones (Huws), because Boserup wrote in 1972 and Huws in the subsequent decades, or because Boserup analyses neither capitalism nor commodification? Rice is one of the key nutrient bases for the global system of commodification theorised by Huws. What is happening to the rice sector in India and what light does it shed on these questions?

#### *4.1 Theorising commodification under conditions of mass poverty*

Let us try to extend Huws' insights to conditions of mass labour force poverty in developing countries such as India. As was discussed in section 3.1, women occupy a range of class positions. The structure of the difference between gender and class and its implications for labour market supply have been theorised - for North Indian conditions - by Kalpana Bardhan (1993). To summarise, first in the capitalist class women are defined through kinship norms and practices of village exogamy and caste-hypergamy. These deprive women of regular support from their natal families. Work in the family business is sex-segmented and women are secluded, such that their income and price elasticity of supply is zero. However, their compliant and pious

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<sup>34</sup> There is a third, though Huws does not explicitly develop this. The speed and comprehensivity of this process means that elderly people can no longer be a repository of useful experience. While Huws sees elderly people as part of women's burden of care, it can be argued that the 'retired' body is also yet another fertile field or object of commodification.

behaviour affects the business family's commercial reputation<sup>35</sup>. This in turn shapes returns from the real economy, for example: access to credit for working capital and access to investment capital through resource flows in marriage alliances. While women are not *exploited*, health and demographic analysis shows only too well that they may be *oppressed*.

Bardhan then turns to consider the working peasantry, where women may organise the hiring-in and out of labour and may supervise production. Their status within a household will affect their supply to the labour market. Third, in labouring households, uxori-local marriage means a woman has access to support from her natal family but she (like her husband) is exploited by capitalist men through wage work. Of all the class sites discussed here, her elasticity of supply is highest. The working woman, by reproducing wage labour across the generations also supplies a 'subsidy' (however one which cannot be valued) to the capitalist. Exploited in her own wage work (perhaps as a domestic servant or agricultural labourer) she is also commonly vulnerable to sexual oppression from capitalist men. Hence a woman's experience of oppression is primarily from the capitalist class and only secondarily from relations within the working class household.

Clearly then, in Indian conditions it is *not* the case that 'robots don't buy cars' (Huws, 2004, p26), it is that the structures of exploitation and oppression which are mapped onto labour supply prevent poor working people, especially poor working women, from 'buying cars'. Nor can they buy wet grinders. And while poor working women do not have individual purchasing power for the so-deceptive 'labour saving' devices central to Huws' theory, some bourgeois women have had those labour-saving devices purchased for domestic use - and some for display and *status*. So a proportion of women from the capitalist and professional ancillary classes in developing countries (possibly those reading this essay) are available for capital and the state, go to work and are captured in - and by - exactly the process Huws theorises for working women in advanced countries. The majority of unemployed bourgeois women (with or without labour saving devices) still transform consumption work into petty services paid for by the surplus value which is extracted and redistributed by men. The home is then a site not only of production for use/production for exchange (by men) but also of demand for, and consumption of, reproductive services (superficially expressed by women in the division of domestic bourgeois labour but using money got by men). This demand is often but not exclusively for female domestic wage labour. In labour surplus economies, *petty production* and *petty services* are then built solidly into the structure of commodification even when they face direct competition from commodity and factory production - exactly the conditions which have been widely predicted to destroy petty production<sup>36</sup>.

Just as well; because the multipliers from waves of Huws-style commodification involve technological transfers from economies with different 'factor proportions' to those of societies with labour surpluses. The extent to which the process of capitalist accumulation triggered by commodification generates the kind of *jobless growth*

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<sup>35</sup>A family's credit in business 'is its stock in the broadest sense, which includes social position, its reputation and the moral and religious as well as the business conduct of all its members' (Laidlaw, 1995, p355)

<sup>36</sup>Along with the peasantry and the 'opium of the masses' (Marx 1990 p595)

much discussed in the Indian literature on trade liberalisation sets further distinctive limits on the Huws-style process of commodification.

*In sum:* in developing countries, the irony is that poor labour-market returns constrain, though they do not prevent, both a Boserup style process of productive deprivation and a Huws style process of waves of commodification broadly centred on the home. Instead, a remarkably stable structure of demand is created for services and basic ‘wage goods’ either produced or supplied under conditions of petty production. Let us put the most basic wage good under the lens of commodification.

## 5. Commodification and De-commodification in the Post Harvest System for Rice

In the absence of other research, suggestive evidence from my own work in West Bengal in 1982, 1990 and 2000-2 will be used to illustrate. Figure 1 shows the result of over two decades of institutional involution in the systems of local petty trade centred on huller (husking) mills and long distance (state mediated) trade through the rice mills. During this period, growth rates for rice production doubled for about a decade and then declined<sup>37</sup>. West Bengal went from being a rice deficit state to self sufficiency in 1993 and surplus thereafter.

Figure 1 shows that large numbers of new *livelihoods* have appeared during the past decade or so: new village level sub-agents for paddy brokers, new petty parboiling firms, new petty milling operations, new petty post-milling rice puffing firms and new itinerant traders of rice. Family firms have started to employ *labour* at a number of sites over the last 15 years, in freight and haulage, huller/husking mills and newly decentralised wholesale-cum-retail firms. New *rental markets* have appeared where the owners of huller mills have invested in mini drying yards and parboiling machinery. The process of commodification of *products* also grinds ineluctably onwards. Rice is differentiated not only through varieties (which are still diverse - though showing signs of a reduction in the range of cultivars) but also through types of pre- and post-milling processing for raw rice, several kinds of parboiled rice, puffed dry rice (*muri*) and rice flour ground from the 2% of rice which emerges from milling in broken forms. Even *waste* is commodified for recycling<sup>38</sup>; even small stones, used as *adulterants* have been commercialised for re-adulteration.

One *by-product*, rice mill husk, is no longer traded as an organic manure but is now recycled as a fuel for steam exchangers in rice mills. New specialist markets have developed for any surplus husk.<sup>39</sup> The *by-product* of the commodified *by-product* (burnt rice mill husk) is also being commercialised as a raw material for both the high tech silica industry and for low-tech brick kilns. Specialised firms are developing to supply each kind of industry. Another by-product (rice mill bran) is the basis of a relatively highly capitalised and large-scale oil extracting industry. This commodity, oil, has only recently been declared fit for human consumption. Previously it was an intermediate good for the production of detergents and paints. The by-product of this

<sup>37</sup> See Rogaly et al 1999 for the debate over growth rates

<sup>38</sup> Beall 1997

<sup>39</sup> Husk in rural huller milling is not yet commodified and retained for domestic parboiling and cooking purposes.

by-product (de-oiled bran cake) even finds its way to Europe as commercial cattle feed.<sup>40</sup>

So rice now enters the food system to be consumed as rice, cooking oil and meat.

*New technology* may be gendered in ways which have perverse effects. The next stage of technical change in agro-commerce - automation - urgently requires computerisation. In small-town S. India, local women who have obtained relevant qualifications have until very recently been debarred (on declared grounds of gender) from computer operation on commercial premises. The agro-commercial elite rejects the female gendering of high-tech work, located socially and physically above their male (family) labour force. The diffusion of automation has therefore been hindered and computerisation has been confined to the kind of simple accounting operations, which can be learned by trial and error by under-educated and uncommodified male family labour.

By contrast *obsolete technology* is not rejected but instead feeds second-hand markets, well evinced in the thriving market for majestic cast-off steam engines (some from the Indian Railways) which are converted for husk firing.

The process is definitely not yet as multiplicative of derived, specialised, professional services such as advertising, insurance, legal and accounting advice as in advanced capitalist economies. The repair and maintenance of mill machinery is not being commodified as a specialist service sector.<sup>41</sup>

### 5. 1 *The commodification of state regulative services*

In contemporary peripheral capitalist societies, just as elsewhere, the sphere of public goods and services is being privatised and commodified. This is only possible because public goods and services are not confined to non-rivalrous and non-excludable goods and services but include those about which there has been a justified public consensus that they be provided by the public sector for non-commercial reasons. The process has been theorised by Leys (2001). Public services are reconfigured as standard commodities; service providers are reduced to wage labour from which surplus can be extracted; the expression of public service values has to be converted into demand for commodities and the state acts to underwrite the risk to capital of this transformation. Under this process (dominated by big business, and, thanks to WTO rules, increasingly by MNCs) labour is being displaced throughout the capitalist world system. However, this process is *always* constrained by the limited proportion of society that can afford 'open' market prices for commodified public goods, or 'user fees' for privatised services. The privatisation of public goods and services *always* has regressive outcomes.<sup>42</sup> In the Indian rice system, the public distribution system is under attack from a process of commodification which takes many forms<sup>43</sup>. The

<sup>40</sup> Most bran from huller mills however, is lost to the agro-industrial system and is retained in villages for animal and poultry feed.

<sup>41</sup> Instead, due to poor infrastructure, physical and tele-communications, it remains internalised into the labour process of individual firms.

<sup>42</sup> State interventions such as the Public Distribution System or Noon meal Schemes have been found to be socially progressive transfers (Harriss-White, 2004b). Educated and skilled labour then plays its role as the 'global reserve army' (Kaplinsky, 2003) or is let loose unprepared and unprotected in the bear garden of the informal economy (Breman, 2003).

<sup>43</sup> Well addressed in Swaminathan, 2000



most obvious is the planned privatisation of publicly owned storage. Another form of attack is deliberately planned market convergence - as when the price of administered foodgrain prices for all but BPL households becomes asymptotic to market prices. Yet another attack consists of barriers to off-take by poor households, exemplified by the large size of the limiting consignments which poor households may purchase on subsidy.

When the state abnegates its responsibilities, markets substitute for the defective or absent supply of public goods and services. Sometimes they take petty forms, e.g. the night watch - when property is insecure - or the private disposal of industrial waste - when public hygiene is poorly provided. But they may also be organised on a large scale, e.g. the production and sale of diesel engines to substitute for fickle state electricity. The process of substitution for state failure carries with it no necessary implications for scale. Where the state does not implement its own regulatory interventions, institutions of collective regulation also fill the normative vacuum and create authority for market order. To the extent that this authority requires resources and skilled and specialised labour, the parallel system of regulation then follows the inexorable logic of commodification. Commodification also proceeds apace in the informalised and illegal markets for public goods and services. Conventionally theorised in terms of rent-seeking, leakages from fraud/plunder far exceed those due to corruption (Roy, 1996). Tax-liable resources fraudulently retained will further lubricate the process of commodification. For example, even in the 'liberalising' post-harvest rice system, the most common and enduring of such markets are those for grain 'leaked' in transport or from storage, or never exported as planned, or seeping into parallel markets from the differences between official milling outturn ratios and higher actual ones<sup>44</sup>. However, by far the more significant phenomena are the criminal markets developed for capital flight and black finance (Srinivasan, 2004). Though Arun Kumar argues that such phenomena are concentrated at the top of the Indian economy there is other persuasive evidence that it is widespread and decentralised<sup>45</sup>.

### 5.2 *The gendered nature of commodification in rice processing*

In the post-harvest rice system it is only the homes of the propertied commercial elite and elite consumers of rice which are turned into a site of consumption of Huws-style 'reproductive commodities'. The systemic commodification we have described here is not sited in the home but in workshops (where the work is scaled-up and more specialised than *bari* production) or in mills/ factories where skills are differentiated. While work conditions are harsh and while labour is certainly next to impossible to organise<sup>46</sup>, in neither case to date is work desocialised as it is depicted in Huws-style commodification. The impact of commodification is well established: a heavy double burden of productive and reproductive work with deleterious implications not so much for women's mental health (due to isolation, as theorised by Huws) as for physical health<sup>47</sup>. Even here there is an additional burden, for women not only endure their own ill health, they are the prime providers of care at times of disability or ill health of other family members and migrant workers forced to return with occupation-

<sup>44</sup>See Mooij, 1999, for detailed evidence for Karnataka and Kerala

<sup>45</sup>Kumar 1999; Roy 1996; Khan and Jomo 2001; Harriss-White 2003

<sup>46</sup>Mills are polluted and drying yards involve back breaking work in hot sunshine.

<sup>47</sup>Elson 1995; Jackson and Palmer Jones 1998, Bhushan, 2003

related accidents and illness<sup>48</sup>. They perform the ‘help in time of need’ that the state provides to public sector workers and that public-private insurance provides to the propertied elites.<sup>49</sup>

The proliferation of livelihoods (producing or trading new products, by products and informalised products) in the involuting rice system appears from the limited evidence for West Bengal and North India to generate wage work and self-employment mostly to young men of low caste. The system is financed through a cascade of money advances from commercial capital. Where family labour is used, women are for the most part reported as under the control of men. It is only when men migrate for work that women emerge as managers of the household’s residual productive assets<sup>50</sup>. Women retain prominent roles in petty retailing. Lacking collateral, they also lack access to banks and thus remain dependent clients of male rice wholesalers, their capacity to accumulate independently constrained (Choudhury, 2001). As a result of the polarised accumulation trajectories created by commodification, de-oiled bran cake, fed to European cattle, and basmati rice wholesaled in Europe can be confected into a ready made meal for consumers in relatively food secure Europe, while the Orissan or Bihari woman supporting the family of the migrant worker in the bran factory or rice mill is one of the most enduringly vulnerable to food insecurity on the planet.

*In sum:* Indian rice markets reveal both Boserup’s and Huws’ theories as being partial. In both cases what they exclude limits their social relevance and their predictions. Boserup conceptualised neither commodification nor capitalism, while Huws has not yet focussed on gendered commodification under conditions of low returns to labour. Huws’ focus on the repeated waves of commodification centred around the home enables her to examine its far reaching impact on the household, changes in women’s work, and the different conditions which ‘make a cybertariat’ in centres of advanced capitalism and in peripheral capitalist societies like India’s. But although that is where it ends, her theory is rich enough to be developed in several new directions. In particular, from the material discussed here, a link can be established between commodification and the combination of petty commodity production and commercial capital that is a persistent feature of the capitalist accumulation through which the process unfolds in India.<sup>51</sup>

## 6. Conclusions

The object of this essay was not to examine commodification across all reproductive commodities in India but in the most basic one of all : rice. The evidence we have marshalled shows that the combination of masculinisation and productive deprivation is confined to the one class where the reproductive commodities (which both generate Huws-type commodification and result from it) are being amassed. Economically

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<sup>48</sup>Erb and Harriss-White, 2002; Rogaly et al 2002

<sup>49</sup> Old age is defined by rural people in terms of the needs generated by incapacity/disability; and the harsh conditions of work in the post harvest system brings on old age at ages far below that of the Indian state’s stingy Old Age Pension which is 60 years.

<sup>50</sup>Coppard 2004; Mosse 2004

<sup>51</sup> Three forces can be seen to drive this process: the differentiation of demand (carefully constructed, in India as elsewhere, through the media, advertising etc); the state-backed import, transfer and adaptation of technology; and relations of corruption and fraud (see Harriss, 2003).

powerful and sizable in absolute terms, this class is relatively small in comparison with the total population. This class *also* generates demand for petty services and petty commodity production.

Rampant commodification can be observed throughout the post harvest system for rice, even under conditions of mediocre growth in production - involving investment goods and technologies, intermediate goods, labour, products, informalised public goods, by-products, waste, adulterants and regulative resources. The forms taken by this commodification are highly varied. New forms of advanced capitalist organisation co-exist stably with older forms, alongside an obstinately persisting production for direct use, driven by poverty. A range of technologies co-exist; a range of laws (of selectively limited reach) and informalised procedures, of social norms and institutions co-exist to regulate this process. These are the characteristics of a market economy which is socially- as well as state- regulated.

In this process, commodities show all signs of becoming standardised. However, they are far from always being the mass products of factories (though steam and diesel engines, rice mill machinery and some rice certainly are produced in factory conditions). In many cases a commodified good produced at home using family labour competes with an identical one produced in a factory using wage labour. What is more, a given task is performed by wage labour with varying rights at work and rights to social security, under a range of contracts and wages. In a socially regulated economy, the segmentation of markets may be such that competition between these forms of labour process may not take place at all. If it does, it requires market preconditions where scale economies in factory production compete directly with unwaged labour in petty production.

Gender is a social structure crucial to the viability of the space for petty production since it is the services which are the outcome of women's agency under exploitive and oppressive conditions that both under-write and constrain bourgeois commodification. It is their unwaged work that is pitted against the economies of scale reaped by capitalist enterprise employing wage workers<sup>52</sup>.

The recognition of the gendering of petty production carries with it some conundrums for policy. On the one hand, if working women were to demand an end to state-subsidies for the production of 'reproductive commodities', the competitive advantage of petty production would be boosted. On the other hand, the moment women and children in family enterprises were to start to demand minimum wages, petty production (and male household heads) would be thrown into crisis. One can safely predict that every attempt will be made to prevent either claim from happening. The state may have an interest in preventing the former, since the actually existing state has long been embroiled in a 'market driven politics'<sup>53</sup> in which capital seeks to seize incentives, such as subsidies, and to resist all disciplinary regulation.<sup>54</sup> It may have an interest in preventing the latter, since in an era with zero or negative

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<sup>52</sup>In the regulation of wage work, non-local (migrant) men of low social status occupy similar positions to women (Vijaybaskar, 2003; Rogaly et al 2000, 2002, Rogaly, 2003).

<sup>53</sup> The phrase is Leys, 2001

<sup>54</sup> See Chibber, 2003, for big family business and corporate capital and Harriss-White 2003, for intermediate capital.

elasticities of labour absorption, the petty sector is increasingly crucial to electoral legitimacy. Bereft of a coherent development project for petty production, the state (re)labels it as 'the tiny sector', 'self employment', 'micro-enterprise', 'micro-credit', 'livelihoods', 'self-help groups' etc. Although interventions proliferate, by taking this ad hoc approach, the state's regulative and welfare responsibilities towards labour can be reduced to highly selective patronage and its infrastructural responsibilities toward business and capital can be minimised.

My final conclusion concerns the theoretical situation of gender relations. While Huws has focussed on what commodification does to women (and to gender relations) in the sphere of consumption and at work 'at home' and around the home, gender is one of a set of non-class, non-state ways in which capitalism is instituted or structured. Other prominent structures are ethnicity, caste, religion, nation, locality, language, age and the life-cycle. Feminist scholarship has been very successful in mapping capitalism, and now commodification, onto gender and *vice versa*.

Gender actually intersects with these other social institutions to regulate markets and structure accumulation. In this essay, an attempt has been made to explore the intersection between rice processing, gender, class and the state. Laurence Pujo has started to theorise the intersection of gender with other institutions, using her experience with the gendered rice markets of Guinea.<sup>55</sup> Locality and ethnicity vary in their significance and regulate the economy in different ways at different scales of aggregation. With respect to locality, information and access to capital is heavily urban and male biased. Ethnicity in business is a strong entry barrier particularly to women – even in a marketing system which Boserup deemed to be 'female'. Little is known about the ways in which divine authority and the practices attributed to religious groups regulate the process of commodification, gender relations and the control of women - and the sites of production, distribution, consumption/demand and reproduction. Pujo observes that allegiance to religion structures network transactions and may also lead to contractual behaviour which differs among co- and non- religionists. While kinship alliances affect entry to marketing systems, less is known about the role of the life cycle in market behaviour. Pujo found that women gain independence with age and can accumulate at a faster pace; however the great majority of women stop trading altogether when their dependents leave the households (Pujo, 1997, pp291-301).

If, with the understanding of feminists, gender were to be seen as a special case of the general phenomenon of the non-class, non-state power structures through which commodification and class relations are constructed, then how do we theorise the *sites* and the *spaces* in which the other institutions work, as Huws and other feminist theorists have done with gender and the spheres of consumption and production? How to relate the emancipatory and oppressive practices expressed through all these major social institutions? How to establish their roles in market exchange? Until this work is done it is impossible to develop a general understanding of the social regulation of the economy. Nor, with few exceptions, have these institutions or structures been related systematically to the practices of the state and the realms of policy. Formulated in terms neutral to these structures (unless intended purposively to transform them) policy in practice works through them. It is due both to the ethnocentricity and to the

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<sup>55</sup>See also Harriss-White 2003 for a general attempt for the Indian economy.

reductive nature of economics that these theoretical, practical and political questions are neglected. Gender has been a most notable exception.

8.5k words without footnotes

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TABLE 1  
**THE GENDERED PRODUCTION OF RICE, 1980s, S. India**

**Livelihoods per annual output of 81.60 tonnes of rice**

	<b>Managers/Family Labour</b>	<b>Permanent/technical Lb</b>	<b>Casual Lb</b>
<b>Huller Mill 0.2-0.8 tonnes per hr</b>	<b>30 (M)</b>	<b>60 (M)</b>	<b>302 (F)</b>
<b>Modern Rice Mill 2-3 tonnes per hour</b>	<b>28 (M)</b>	<b>68 (M)</b>	<b>90 (M)</b>

**Source: Harriss and Kelly, 1982**

TABLE 2  
PERCENTAGE DISTRIBUTION OF RICE MILLS AS ON 01.01.2001

S.No.	Name of State	Hullers	Mini-Shellers	Modern Rice Mills	Total	Total Number	% of the Grand Total
1.	Andhra Pradesh	21.20	8.16	59.76	100.00	21744	15.61
2.	Assam	-	-	-	-	2820	2.02
3.	Bihar	97.48	1.29	1.05	100.00	4872	3.50
4.	Gujarat	59.79	-	33.06	100.00	3161	2.27
5.	Haryana	44.91	-	55.09	100.00	1797	1.29
6.	Himachal Pradesh	-	-	-	-	1116	0.88
7.	Jammu & Kashmir	-	-	-	-		@
8.	Karnataka	63.54	3.21	25.56	100.00	14370	10.32
9.	Kerala	84.29	-	15.62	100.00	16210	11.64
10.	Madhya Pradesh	63.79	3.27	28.67	100.00	6142	4.41
11.	Maharashtra	76.11	2.53	16.33	100.00	10772	7.76
12.	Manipur	-	-	-	-	1498	1.08
13.	Meghalaya	-	-	-	-	260	0.18
14.	Nagaland	-	-	-	-		@
15.	Orissa	86.88	1.70	7.50	100.00	7364	5.29
16.	Punjab	64.72	6.47	28.80	100.00	6823	4.90
17.	Rajasthan	-	-	-	-	353	0.25
18.	Sikkim	100.00	-	-	100.00	17	@
19.	Tamil Nadu	70.61	2.31	20.24	100.00	19378	13.91
20.	Tripura	-	-	-	-	1045	0.75
21.	Uttar Pradesh	72.85	7.17	18.06	100.00	7834	5.62
22.	West Bengal	90.51		8.77	100.00	10555	7.58
23.	Andaman & Nicobar	-	-	-	-	116	@
24.	Chandigarh	-	-	-	-	27	@
25.	Delhi					9	@
26.	Goa					751	0.54
27.	Pondichery	-	-	-	-	234	0.17
<b>Total</b>	Number	91287	4538	35088		139298	
	Percent	65.53	3.26	25.19	100.00		100.00

@ Number insignificant

Source: Report of the Ministry of Food Processing Industry, 2002; Kaur 2004

**TABLE 3: IMPACT OF MECHANICAL DRYING , W. Bengal  
Livelihoods per Rs 1 crore of gross output (2002)**

	<b>BEFORE (Birbhum Dt)</b>	<b>AFTER (Bardhaman Dt)</b>	<b>% Change</b>
<b>Family (M)</b>	<b>1</b>	<b>1</b>	<b>-</b>
<b>Permanent Lb (M)</b>	<b>4</b>	<b>2</b>	<b>-50</b>
<b>Casual Lb (M)</b>	<b>1.5</b>	<b>2</b>	<b>+33</b>
<b>Casual Lb (F)</b>	<b>12.4</b>	<b>0.3</b>	<b>-98</b>
<b>Processing Time (hrs)</b>	<b>72-120</b>	<b>12-24</b>	

Source : data in Ghosh and Sudarshan, 2004

**TABLE 4: Employment Structure in Rice Processing (Punjab)**

Sr.No.		Number	Per cent of the total
1.	Regular Family (management)	6160	4.29
2.	Regular (but not permanent) Employees:		
	a. With most service benefits	1218	0.85
	b. With only PF facility	7000	4.87
3.	Seasonal Employees (without any benefits)	19000	13.22
4.	Unskilled Daily Wage Workers	105000	73.08
5.	Sub-total (Formal Sector Workers)	138378	96.31
5.	Seasonal Family Workers in Informal sector units	5800	3.69
6.	Total	143678	100.00

Source: Survey of Rice Processing Industry, Kaur 2004



TABLE 5:  
Male Livelihoods in Rice Mills in Punjab 2002 per unit

	Huller Mill	Basmati Export Mill	Co-operative Mill	MRM on contract to State Trading Agencies	Annual earnings per unit (Rs '000)
Family labour	1-2	3-5	-	3-7	40,000-112,000 (MRM)
Managers	-	-	5-11	-	180 (Co-op)
Regular staff	-	10-20	-	10-15	35-50
Security staff	-	4-6	-	4-6	20-30
Machine Maintenance and Skilled Labour	-	5-10	5	5-8	50-120 (Co-op)
Unskilled Labour	1-5	20-30	20-50	30-50	17-84 (Co-op)
Capacity (tonnes per hour)	0.2-0.5	3-7	4	1-2	

Source: data in Kaur, 2004

## APPENDIX : THE POST HARVEST PROCESSING OF RICE

The milling of rice involves removing the outer layer of husk and the intermediate layer of bran. The milling outturn varies from 60-69% depending on the pre-milling processing, the milling technology, the moisture of the paddy and the degree of polish required.

The tasks associated with paddy milling vary widely. At one extreme is the custom mill, processing 0.2 tonnes per hour with one pass for a fee; in which the byproducts are retained by the owner of the consignment. At the other extreme is the modern rice mill (MRM). Paddy is passed through mechanical driers or sun-dried down to 12-14 % moisture. Dust, stones and other adulterants are removed, paddy is milled using a rubber roll sheller, rice is polished, graded and packaged, while husk and bran are separated.

In Eastern India and regions supplying Eastern India, paddy may be par-boiled according to a range of techniques, prior to drying and milling. In general it is soaked prior either to steaming or boiling. Parboiling gelatinizes the starch, making the grain translucent, hard and resistant to breakages during milling. As a result milling recovery rates for head rice and total rice yields are improved. The rice kernel also absorbs oil, vitamins and minerals from the surrounding layer of bran, making it more nutritious.

Paddy husk, a by-product in the process, is used as fuel for boiling and mechanical drying. Husk from raw rice mills is sold. Other by-products are rice bran, which is either returned as animal feed or commercialized as a raw material for solvent oil extraction, broken rice (which is sold or crushed or powdered prior to sale) and husk ash which is used as an organic fertilizer and a base for cosmetics. (see Kaur, 2004)

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