

FEMINISATION OF AGRICULTURE : WHAT DO SURVEY DATA TELL US?

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ABSTRACT

It is frequently asserted that there has been a feminisation of agriculture in India though there has been little systematic effort to furnish evidence to support this. If indeed there has been feminisation, should it be viewed as a positive development for women? This paper provides some evidence, based on NSSO surveys, of women's growing participation in agriculture; it then argues that the entry of women in the workforce can be empowering for women, but conditions must be conducive.

As more women enter the labour market, the opportunities for correcting gender asymmetries and empowering women open up, but the potential remains untapped because the conditions under which feminisation is taking place are loaded against women. Not only do women farmers not have ownership rights to the land they cultivate, but very few women have the autonomy to take production related decisions. This emerges from the analysis of agricultural census data that show that a very small proportion of agricultural holdings are controlled by women. Thus there is a clear disjunction between the growing number of women farmers and the limited number who have decision making powers in agriculture. Moreover, women are also handicapped on other fronts; disparities in wages and work days, low levels of education and skills, constraints on access to loans, and training; and lack of a collective voice. If the increasing numbers of women entering the workforce are to improve their own well-being and contribute to suffusing dynamism in agriculture many measures need to be taken urgently.

With more than half of India's workforce engaged in agriculture as the principal occupation, agriculture retains its position as the predominant sector of the economy. Women's engagement and participation in agriculture has always been high even if it has not been adequately recognised or recorded. In recent years, however, with increasing out-migration of men, it is asserted that more and more women are participating in agriculture

and as a result there has been a feminisation of agriculture (GoI, 11th Plan; National Commission for Farmers, II Report 2005). Although this view has acquired wide acceptance, there is little systematic attempt to furnish evidence to support this or to understand the extent to which this is taking place. Moreover, if feminisation is indeed taking place, what are the implications for women? Are there any lessons for policy?

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This paper examines this issue by analysing the trends in women's engagement in agriculture. The first part of the paper analyses data from the National Sample Surveys (NSS) to show that the proportion of women workers in agriculture is higher for women than it is for men. Moreover, in absolute terms there has been an increase in the number of women farmers. The second part of the paper notes that while feminisation has the potential to be empowering for women and a catalyst for dynamic growth in agriculture, there are a number of factors that limit this potential. Women are constrained because they have little or no decision making in agriculture or control of holdings. Where they do have control it is largely over small fixed holdings. Women agricultural workers receive lower wages and fewer days of work compared to men and have lower access to education and training.

One of the important constraints is that while the number of women farmers has increased, very few have the autonomy to take decisions regarding their holdings. This is shown by an analysis of gender disaggregated data on holdings from the agricultural census. Thus there is a clear disjunction between the growing number of women farmers and the limited number who exercise decision making control in agriculture. Another constraint is the disparities in wages and workdays as shown by data from the NSS. Other handicaps faced by women are also discussed: low levels of education and skills, constraints on access to

loans, and training; and lack of a collective voice. If the increasing numbers of women entering the workforce are to contribute to dynamism in agriculture it is important that their capabilities are enhanced, gender and social group disparities reduced and forms of collective action and assertion are strengthened.

The analysis in this paper is based on data from the National Sample Survey and from the Agricultural Census. The most recent large sample data available from the NSS are from the 61st round (2004-05). We use data from this round and from the earlier rounds. The agricultural census provides information on operational holdings by gender but data are only available for 1995-96 and 2000-01. However, this should not pose a problem, because the factors that would influence women's share in holding alter very slowly and it is safe to presume that the change in subsequent years would be of the same small magnitude as that between the two census years that we have analysed.

Women in the Agricultural Workforce : the Evidence of Feminisation

Among women workers in rural areas, 83 per cent were engaged in agriculture, as compared to 67 per cent of men workers (NSSO 2004-05)¹, showing that a larger proportion of women workers were in agriculture as compared to men. The annual growth rate of all male workers in rural areas

Table 1 : Growth Rate (Percentage) of UPSS Agricultural and Total Workers (Rural)

	1983/94		1994/05		1983/05	
	Agriculture	Total	Agriculture	Total	Agriculture	Total
Male	1.5	1.9	0.5	1.5	1	1.7
Female	1.2	1.4	1.4	1.7	1.3	1.5
Total	1.4	1.8	0.9	1.6	1.1	1.7

Source: Computed from NSS Employment and Unemployment Surveys.

was 1.5 per cent in the decade 1993-94 to 2004-05, the growth rate of workers in agriculture was only 0.5 per cent. For female workers the corresponding figures were 1.7 and 1.4 per cent : illustrating that the growth of women workers was three times that of male workers.

Table 2 shows that although both men and women have been moving out of agriculture to take up work in other sectors,

this movement away from agriculture has been faster for men. The latter have moved out of agriculture to take up employment in hotels, construction and financing and insurance sectors. Movement into non-farm jobs for women has been very slow.

This pattern observed at the national level is replicated in most states. Table 3 shows the workers in agriculture as a proportion of all rural workers by gender. In order to highlight

Table 2 : Distribution of Workers Across Industrial Category Within Gender Group (Rural)

Industry	Men		Women	
	1999-00	2004-05	1999-00	2004-05
Agriculture, Forestry & Fishery	71.4	66.5	85.4	83.3
Mining & Quarrying	0.6	0.6	0.3	0.3
Manufacturing	7.3	7.9	7.6	8.3
Electricity, Gas & Water	0.2	0.2	0	0
Construction	4.5	6.8	1	1.5
Trade & Hotels	6.8	8.3	2	2.5
Transport, Storage & Communication	3.2	3.8	0.1	0.2
Financing Insurance etc.	0.5	0.7	0.1	0.1
Community & Social	5.6	5.1	3.6	3.8
All	100	100	100	100

Source : Computed from NSS Employment and Unemployment Surveys, 1999-00 and 2004-05.

broad regional differences, without cluttering up the analysis, ten major states have been examined. These are Uttar Pradesh and Madhya Pradesh in the north, West Bengal and Orissa in the east, Maharashtra and Gujarat in the west and Andhra Pradesh and Tamil Nadu in the south. Punjab and Kerala are included because,

as we shall see later in this paper, when we analyse the data on operational holdings, they represent two extreme poles. The Table highlights the fact that the proportion of women workers in agriculture is higher than that for men in all states (except West Bengal).

Table 3 : Percentage Share Of Agricultural Workers in Total Rural Workforce in Selected States

States	Males		Females		Difference in % share of female and male	
	1999-00	2004-05	1999-00	2004-05	1999-00	2004-05
Punjab	63.7	54.7	90.6	89.7	27	35
Kerala	42.8	37.1	59.8	51.7	17	15
	North					
Uttar Pradesh	71.8	66.3	87.5	86.5	16	20
Madhya Pradesh	84.2	79.1	91.6	88.1	7	9
	East					
West Bengal	66.4	63.9	54.1	58.8	-12	-5
Orissa	77	65.9	80.4	74.6	3	9
	West					
Maharashtra	73.8	71.4	93.9	90.7	20	19
Gujarat	71.4	69.3	92	89.1	21	20
	South					
Tamil Nadu	62.2	58.7	75.9	73.8	14	15
Andhra Pradesh	74.4	66.4	84.3	78.5	10	12
India	71.4	66.5	85.4	83.3	14	16.8

Source : Computed from NSS Employment and Unemployment Surveys, 1999-00 and 2004-05.

The proposition of feminisation of agricultural workforce is supported by the data from the NSS which shows that while there has been an increase in the absolute number of both men and women in agriculture in the period under review, the number of women has increased more, so that the relative proportion has moved in favour of women.

As Table 4 shows, while there was an increase in both the number of men (6.6 million) and women (15.7 million) in agriculture, the increase was much more for women. Consequently, the ratio of men to women that was 61:39 in 1999-00 moved up to 58:42 in 2004-05.

Table 4 : Number of Farmers and Agricultural Labour and Percentage Distribution by Gender

	Farmers (mln)		Agricultural labour (mln)		All workers (mln)	
	1999-2000	2004-2005	1999-2000	2004-2005	1999-2000	2004-2005
Male	85.3	96.8	55.7	50.8	141	147.6
Female	51.9	69.4	38	36.2	89.9	105.6
Total	137.3	166.2	93.7	87	231	253.2
Percentage Distribution by Gender						
Male	62.1	58.2	59.4	58.4	61.0	58.3
Female	37.8	41.8	40.6	41.6	38.9	41.7
Total	100	100	100	100	100	100

Source: Computed from NSS Employment and Unemployment Surveys, 1999-00 and 2004-05.

People may be engaged in agriculture either as self-employed workers (hereinafter referred to as farmers in line with common usage) or as agricultural labourers. Table 5 shows that between 1999-00 and 2004-05, the numbers of farmers, both male and female,

increased, but the number of agricultural labourers declined marginally. Overall, while male workers in agriculture increased by 4.7 per cent, the percentage increase for women workers was 17.5 per cent, that is, by more than three times that of male workers.

Table 5 : Change in the Number of Agricultural Workers by Type of Worker and Gender

	Change in number of farmers (mln)	Change in number of ag labourers (mln)	Change in number of all agricultural workers (mln)	Change in number of all agricultural workers (%)
	2004-05 over 99-00	2004-05 over 99-00	2004-05 over 99-00	2004-05 over 99-00
Male	11.5	-4.9	6.6	4.7
Female	17.5	-1.8	15.7	17.5
Total	28.9	-6.7	22.2	9.6

Source: Computed from NSS Employment and Unemployment Surveys, 1999-00 and 2004-05.

The Context of Feminisation

The above analysis illustrates that feminisation is indeed taking place, albeit at a slow pace. As males migrate to seek work, women are left to retain a foothold in land that is crucial for the security it provides in terms of food, livelihood and collateral. Feminisation has been taking place in a period of agrarian crisis, neglect of agriculture and uncertainty as a result of opening up to international markets. Institutional credit to agriculture has been woefully inadequate, quantitative restrictions on imports have been reduced or removed with deleterious consequences, public investment in irrigation and other infrastructure has been very low, and many farmers faced crop failures. All this led to stark agricultural distress. Women have been negatively impacted upon by these developments which have added to the problems and arduous work burden they already face on the domestic and work related fronts. There is no gainsaying that the income and consumption of many women in rural areas would have deteriorated in this period.

On the positive side, as more women enter the labour market, the opportunities for correcting gender asymmetries and empowerment open up. Earning an income, controlling expenses and taking production related decisions can be stimulating and challenging for women. IFAD's report on rural poverty refers to a study from China to show that male migration can increase women's decision making powers in the family and in the community and states, "the rule is the more men work off the farm, the more actively women participate in the village" (IFAD 2002, p 47). This enhancement of women's agency is something that women report they cherish.

However, the conditions under which feminisation is taking place are loaded against women. Women are entering the workforce

hobbled. On the one hand, women have little access to assets and resources, and their skills and capabilities are low and on the other, the external environment is uncertain, threatening and unfavourable. If rural poverty has to come down, and if women are to gain from the possibilities that are opening up, the context in which feminisation is taking place has to change. Some of these constraints are discussed below.

Constraints on Women in Agriculture

Lack of Ownership Rights Over Land : In the classic novel *Gone with the Wind*, an incredulous Gerald asks his daughter, "You mean to tell me Katie Scarlett O'Hara, that land doesn't mean anything to you?" and adds sagaciously, "Why land is the only thing in the world worth working for, worth fighting for, because it's the only thing that lasts." More than a century after these words were famously said in another context, land remains a coveted asset in India. However, the ownership and control of land continues to elude women. Denying women independent right to land and the control of assets is integrally linked to structures of patriarchy, both within the family and in the community and is mediated by caste and class hierarchies. This has led to laying the material ground for relationships of dependence and inequality, women's oppression and the perpetuation of poverty.

The arguments for women's rights to land have been cogently highlighted in Agarwal's seminal work on this issue (Agarwal 1994). She has built her arguments on four premises; welfare, efficiency, equality, and empowerment. Following extensive advocacy it is now recognised that enhancing of women's rights and entitlements to land deserves to be the first priority on the agricultural agenda (NCF, III Report). However, in most parts of the country, agricultural land remains largely in the name of men.

This has manifold implications that assume critical importance. Firstly it constrains women's ability to take decisions and make investments. Second, women cannot use it as collateral for loans. Third, women are not perceived as farmers, but only as subsidiary workers or helpers because they are not owners of land. As a result, agricultural extension and information on new technologies are almost exclusively directed to men. NSS data for 2004-05 show that 18.5 per cent of women workers in agriculture in rural areas as opposed to 7 per cent of male workers are engaged in the livestock sector. However, when training is to be provided, it is targeted to males. Vegetable growing is a similar area. If women were accepted as owners it is more likely that training programmes would be designed and targeted towards them.

Fourthly, when women labour hard, but do not exercise control on farm income there is evidence that it leads to alienation of women's farm labour. This issue has not been researched in India, but a dramatic example of systematic differences in effort due to differential entitlement structure on farm productivity comes from Africa. A new maize technology introduced in Kenya involved significant changes in weeding requirements. In the female headed households where woman controlled the proceeds of their own labour, yields increased by 56 per cent. In the male headed households women also did the weeding but they did not control the proceeds of the labour and yields increased by just 15 per cent. "If the sample is representative of rural Kenya the national maize loss from this disincentive effect is about equal to the maize gain from the application of phosphate and nitrogen fertilisers." (IFAD 2002, p49).

The simple point is that in situations of alienated labour, where people are not involved in decision making and have little or no control on the fruits of the labour, their

creativity and involvement is low. Ownership entitles people to the "fruits of their ideas and efforts and...provides motivation for hard and imaginative work." (IFAD 2002, p 49). This hard and imaginative work of women will perhaps not surprisingly be related to the extent of their ownership.

The Hindu Succession (Amendment) Act, 2005 is a landmark that goes some way in correcting gender inequality in property rights over land (GoI, Planning Commission, 2007; Agarwal, 2005²). However, there are many constraints to women exercising their legal claims and the impact of this legislation remains to be seen.

Few Women Have Control Over Operational Holdings : Despite the manifest importance of the issue, and the fact that India has a system of data collection and a database that is internationally acclaimed, there are no data available on the gender disaggregated ownership of land. The closest information that is available is from the agricultural census that collects data on gender disaggregated control over operational holdings. This information is significant. It reflects the extent to which women have authority or autonomy to make decisions regarding agriculture. The data are analysed in this paper to assess the extent to which women have control on land, to see if there has been any change over time as well as to examine the differences across states.

An operational holding in the agricultural census is defined as one consisting of all land which is used for agricultural production and is operated as one unit by a person alone or with others without regard to the title, legal form, size or location. An operational holding comprises i) land owned and self-operated, ii) land leased in and iii) land otherwise operated. An operational holder is the person who has the responsibility for the operation of the agricultural holding and who exercises the technical initiative and is responsible for

its operation. The person may have full economic responsibility or may share it with others. The operational holder may be individual, joint or institutional. An individual holding is defined as one that is operated either by one person alone or by a group of persons who are the members of the same household. By far the largest proportion of agricultural holdings in the country is individual holdings.

A holding is joint if two or more persons belonging to different households share jointly as partners in the economic and technical responsibility for the operation of an agricultural holding. Holdings such as government farms, sugarcane factory farms, cooperative farms, lands managed by trusts would be treated as institutional. Since we wish to see the extent and trend in women's control over operational holdings, in this paper we analyse only the data on individual holdings. Information on holdings is available for 1995-96 and 2000-01. Since we have taken the

period from 1999-00 to 2004-05 to show increasing feminisation, ideally, data on female control of holdings for this period would have been helpful. However, cultural norms and attitudes towards women do not change rapidly; therefore, we can safely assume that the trends and information for the period 1995-96 to 2000-01 will remain relevant for the period till 2004-05 as well.

The total number of individual operational holdings was 103.9 million in 2000-01. Male operational holdings constituted about 88.4 per cent while those held by women were just 11.6 per cent. In 1995-96, the total number of holdings was 100.5 million of which women controlled only 10.2 per cent of all holdings. The points to note are firstly, that women, who despite being predominantly engaged in agriculture actually exercise decision making over a very small proportion of the holdings. Secondly, even though the proportion is low, it has been increasing, though very gradually, over the years.

Table 6 : Number, Area and Distribution of Holdings by Gender and Change Between Census Years

	1995-96		2000-01		Per cent change	
	Number	Area*	Number	Area*	Number	Area*
Male	9,03,72,477	12,54,44,748	9,18,56,264	12,04,00,557	1.6	-4.0
Female	1,02,08,217	1,04,35,065	1,20,90,328	1,20,17,200	18.4	15.2
Total	10,05,80,694	13,58,79,813	10,39,46,592	13,24,17,757	3.3	-2.5
	Percentage distribution by gender		Change in percentage points			
Male	89.85	92.32	88.37	90.92	-1.5	-1.4
Female	10.15	7.68	11.63	9.08	1.5	1.4
Total	100	100	100	100		

* Area in absolute hectares. Source: All India Report on Agricultural Census 1995-96 and 2000-01.

While the number of holdings increased in this period, the area declined. Thus, the area under individual operational holdings was 135.9 million hectares in 1995-96 which declined to 132.4 million hectares in 2000-01. The percentage of operated area belonging to women was a mere 9.08 per cent whereas it was 90.9 per cent for men. This represented an increase in women's share from the corresponding figures of 7.7 and 92.3 per cent in 1995-96.

Inter-state Variations in Women's Share in Operational Holdings : Within this overall distribution by gender at the national level, there are surprisingly sharp differences between states. The position with regard to

individual operational holdings in some selected states is shown in Table 7. As given in Table 3 earlier, the data of ten states are given to show broad regional differences. Punjab and Kerala are outliers and seem to represent two contrasting poles.

Our interest in Punjab lies because it is agriculturally the most prosperous State. Does economic prosperity also imply more gender equity in pattern of control over agricultural holdings? The data for Punjab show that this is clearly not the case. In fact women's share in holdings is much below the national average, and the lowest among the states. Not only is it low, but women's share in holdings has grown very slowly between 1995-96 and 2000-01.

Table 7 : Share of Female Operational Holdings (%) by State

State	1995-06		2000-01		Change (% points)	
	Number	Area	Number	Area	Number	Area
Punjab	0.7	0.5	0.8	0.6	0.1	0.1
Kerala	23	18	21	16	-2	-2
North						
Uttar Pradesh	6.4	5.8	7.6	6.5	1.2	0.7
Madhya Pradesh	6.8	4.8	6.6	5.1	-0.2	0.3
East						
West Bengal	3.1	2.5	3.3	2.1	0.2	-0.4
Orissa	1.3	1.2	3	2.7	1.7	1.5
West						
Maharashtra	13	11.1	15.5	13.6	2.5	2.5
Gujarat	8.8	7.4	9.4	8.2	0.6	0.8
South						
Tamil Nadu	16.5	14.2	18.1	15.1	1.6	0.9
Andhra Pradesh	18	14	20	17	2	3

Source: Computed from All India Report on Agricultural Census 1995-96 and 2000-01.

The other choice of State for enquiry is Kerala. There is a large out-migration of men from the State, consequently it is expected that the women who are left behind would have a larger control over land. The results show that this indeed is the case. However, even here the share of male holdings far exceeds that of women. Male operational holdings (individual holdings) constituted 77 per cent while female operational holdings were 23 per cent. Surprisingly, there was a small decline in women's share in holdings over the period under examination.

The eastern states appear to have the most gender-skewed pattern. In West Bengal, while male operational holdings were 97 per cent, female holdings were a mere 3 per cent in 2000-01. Women's share remained the same over the five-year period. The figures for Orissa were the same as for West Bengal in 2000-01, but were lower in the earlier period. For both States the share of women is below the national average. The results are somewhat surprising for West Bengal where large scale land reform has taken place. Clearly, women's rights to land do not form part of the agenda for land reform even for a left front led government. In terms of area under holdings, the pattern conforms to the pattern discussed for the number of holdings.

The most interesting results emerge from the two States from the south, Tamil Nadu and Andhra Pradesh. The distribution, although far from being just or equitable to women, still shows that the share of women who control agricultural holdings is higher than the national average. In Tamil Nadu, male holdings constituted 82 per cent of all holdings while female operational holdings were 18 per cent in 2000-01. The corresponding figures were 80 and 20 per cent for Andhra Pradesh. The gender distribution in terms of area under operational holdings mirrors the pattern for number of holdings. Both States show some increase in women's share in holdings.

The pattern in the two large northern States of Uttar Pradesh and Madhya Pradesh is very similar. In both States the share of women holders is lower than the national average. In Uttar Pradesh male holdings were 92.4 per cent whereas female holdings constituted 7.6 per cent. There was a slight increase in women's share in holdings over time. In Madhya Pradesh, male holdings were 93.4 per cent and female holdings 6.6 per cent in 2000-01, but unlike other states, there was a slight decline in women's share. In both States, the female share in the area operated was lower than their share in number of holdings, implying that women operate smaller holdings than men. Maharashtra and Gujarat in the west show an interesting pattern. In both States the share of women in operational holdings is higher than the national average though lower than the southern states. Male operational holdings were 91 per cent in Gujarat compared to 9 per cent for women. In Maharashtra, male operational holdings were 84 per cent compared to 16 per cent among women.

There are many factors that explain the differences in the share of women across states and these would include cultural norms, the socio-economic status of women, pattern of male out-migration and non-farm employment. However, an analysis of the causes for inter-state differences is the subject of further research. For the present we only wish to highlight two conclusions. First, the proportion of women who exercise control over agricultural holdings has grown thereby demonstrating a trend towards a slow feminisation. Second, despite the small increase the fact remains that the proportion of women who have control over decision making is very low thus constraining their efficiency as farmers and agricultural workers. Thus, while the male: female ratio among farmers in the country is 58:42; the same ratio is 88:12 if the indicator we consider is control over agricultural holding.

To summarise, the data show large inter-state variations in the extent of women's control of operational holdings. The eastern states have the most gender skewed pattern with women having the lowest share. This share is on the whole slightly higher in the northern states, but is still lower than the national average. Gender disadvantage is relatively the least in the southern states.

Women's Control Declines with Size of Holdings : Not only do very few women control land, but chances are that even when they do exercise control it is more likely to be

a small sized holding, rather than a large one, and declines as the size of holding increases.

Table 8 shows that the proportion of female holdings was 12.8 in the category of marginal holdings but came down to 5.7 in the case of large holdings. If we compare over the two periods of the census, there appears to be a marginal upward shift in the share of women across all sizes of holdings, both in the number of holdings and in the area operated, but relatively the most increase has taken place in small holdings.

Table 8 : Percentage Share of Women in Operational Holdings by Size of Holding

All social groups Size of holding	1995-06		2000-01		Change (percentage points)	
	Number	Area	Number	Area	Number	Area
Marginal	11.4	10.2	12.8	11.7	1.4	1.5
Small	9.3	9.2	10.9	10.9	1.6	1.7
Semi-medium	7.7	7.6	9.1	9	1.4	1.4
Medium	6.1	6	7.1	7	1	1
Large	4.9	5.1	5.7	5.6	0.8	0.5
Total	10.1	7.7	11.6	9.1	1.5	1.4

Source: Computed from All India Report on Agricultural Census 1995-96 and 2000-01.

In its recent report, A Special Programme for Marginal and Small Farmers, the NCEUS (2008), has highlighted the multiple disadvantages faced by small and marginal farmers, a large proportion of who are women farmers. Thus, 39 per cent of all marginal farmers are women; among large farmers, 34.5 per cent are women. Poverty among marginal and small farmers is higher. For women farmers these problems get magnified particularly in a context of increasing market integration and globalisation.

The Eleventh Plan notes, "For growth to be at all inclusive, the agricultural strategy must focus on the 85 per cent of farmers who are small and marginal, increasingly female and who find it difficult to access inputs, credit and extension or to market their output." (GoI, 11th Five Year Plan, Vol III, p8). On the same lines, the World Development Report (WDR, 2008), states that the role of women is most important in small and marginal farms, which are the basis of economic growth in agriculture and calls for a "productivity revolution in smallholder farming" (WDR 2008, p1).

Lower Share of Women from Marginalised Social Groups : Within the overall situation where women control only a small share of holdings, do women from the marginal social groups face any greater discrimination? Table 9 shows that overall, women's share, both in

terms of number of holdings and in terms of area cultivated, is lower among SCs and then STs, compared to 'others'. Thus, it does seem that women from the socially discriminated social groups fare worse.

Table 9 : Percentage Share of Women in Operational Holdings by Caste

	Percentage share of women					
	1995-06		2000-01		Change in % pts	
	Number	Area	Number	Area	Number	Area
SC	9.4	7.5	10.4	8.7	1	1.2
ST	7.2	6.4	9	7.8	1.8	1.4
Others	10.6	7.9	12.1	9.3	1.5	1.4
Total	10.1	7.7	11.6	9.1	1.5	1.4

Source : Computed from All India Report on Agricultural Census 1995-96 and 2000-01.

Table 10 shows the number and area of women's holdings as well as the increase over the two time periods by social group. The most rapid increase has been for ST women. However, as Table 9 shows the share of women in holdings is lowest for ST women.

Among SCs, women's share in holdings has grown very little over time; female holdings were 10.4 per cent in 2000-01, up from 9.4 per cent in 1995-96. In the same period, ST female holdings increased from 7.2 to 9 per cent, and among 'others' it increased from 10.6 to 12 per cent of all holdings.

Table 10 : Number and Area of Female Holdings and Percentage Variation 2000-01 over 1995-96

Social group	1995-96		2000-01		% change	
	Number	Area *	Number	Area*	Number	Area*
SC	1214211	850203	1388695	972780	14.4	14.4
ST	623336	961645	777276	1149825	24.7	19.6
Others	8370670	8623217	9924357	9894595	18.6	14.7
Total	10208217	10435065	12090328	12017200	18.4	15.2

* Area given in absolute hectares.

Source : Computed from All India Report on Agricultural Census 1995-96 and 2000-01.

Among all social groups, women are more likely to have control on land if it is small, with the men more likely to take over as the size of a holding goes up.

Table 11 : Percentage Share of Women in Number of Operational Holdings By Size Of Holding and Caste

Size of holding	Scheduled Castes			Scheduled Tribes			Others		
	1995-96	2000-01	Change	1995-96	2000-01	Change	1995-96	2000-01	Change
Marginal	10	10.9	0.9	8	9.9	1.9	11.4	12.8	1.4
Small	8.1	9.5	1.4	6.8	8.7	1.9	9.3	10.9	1.6
Semi medium	7.1	8.5	1.4	6.6	8	1.4	7.7	9.1	1.4
Medium	5.7	6.6	0.9	6.1	7.1	1	6.1	7.1	1
Large	4.8	5.6	0.8	5.1	6	0.9	4.9	5.7	0.8
All	9.4	10.4	1	7.2	9	1.8	10.1	11.6	1.5

Source : Computed from All India Report on Agricultural Census 1995-96 and 2000-01.

The average size of holding for SCs declined over the period: it was 0.86 hectare in 2000-01 against 0.91 hectare in 1995-96. For male holdings the average size was 0.88 hectare and for women it was 0.71 hectare in 2000-01 as compared to 0.93 hectare and 0.71 hectare, respectively in 1995-96. Among STs, the average size of holdings was 1.76 hectare in 2000-01 against 1.84 hectares in 1995-96. For male holdings the average size was 1.78 hectare and for women it was 1.53 hectare in 2000-01 as compared to 1.86 hectare and 1.62 hectare, respectively in 1995-96.

Among all social groups, the average size of holding declined from 1.40 hectares in 1995-96 to 1.32 hectares in 2000-01; for males the decline was from 1.44 hectares to 1.35 hectares, and for women from 1.06 hectares to 1.03 hectares in the same period.

Wrapping up our analysis, it is fair to state that as more women enter the agricultural

workforce they do so with their hands tied. Very few women have the autonomy to take decisions related to agriculture; the situation being worse for women from the marginal social groups: thus women from scheduled tribes have the lowest share in operational holdings, followed by scheduled castes. Women belonging to the general castes have relatively the highest share in holdings. The average size of holdings has been declining for all social groups, both for men and for women.

Low Wages and Gender Disparities : The feminisation of agriculture must be seen in the context of other related developments, in particular workdays declined in this period reflecting the stark signs of agrarian distress. Data from the NSSO show that between 1999-00 and 2004-05, the number of days of work declined for rural labour; by 8 days for men and 15 days for women.

Table 12 : Wage Employment Days for Casual Rural Agricultural Labourers

	Days of work			Change		
	1993-94	1999-00	2004-05	1999-00 over 1993-94	2004-05 over 1999-00	2004-05 over 1999-00
Male	244	235	227	-9	-8	-17
Female	196	199	184	3	-15	-12
Total	224	220	209	-4	-11	-15

Source: NSSO various rounds.

Agricultural wages for casual labour were low and almost stagnant. A number of studies (Srivastava and Singh 2005 and 2006, Unni 1997) bring out the stagnation and gender disparities in wages. Wages grew at a very slow rate of just 1.3 per cent per year between 1999-00 and 2004-05. This showed a sharp deceleration from the earlier period when they grew at 2.9 per cent per year. Wages for women are consistently lower than for men. Male wages are on an average 1.4 times higher than female wages indicated by the fact that the ratio of female to male wages in casual agricultural labour remained at about 0.7 since 1993-94.

These developments, that is, the stagnation in wages and the lesser number of days of work both for men and women,

suggest that demand for labour has been sluggish. With low demand for labour in agriculture, it is likely that many labourers may have migrated to urban areas to seek work. There has been a widening of the gap between agricultural and non-agricultural wages for casual labour, with the latter being about 1.5 times higher. At the same time, with increasing fragmentation of holdings, more people report themselves as farmers, but as the size of holdings declines, the number of small and marginal farmers grows. The reports of the National Farmers Commission (2005) and the NCEUS (2009) bring out vividly the plight and the worsening conditions for small and marginal farmers in this period. They also reinforce the view that distress has grown in this period, a grim outcome of which was the large number of suicides in rural areas.

Table 13 : Wages and Growth in Wages of Casual Agricultural Workers

	Wage Rate (Rs./ Person day)			Growth Rate (per cent per year)		
	1993-94	1999-00	2004-05	1999-00 over 1993-94	2004-05 over 1999-00	2004-05 over 1993-94
Male	37.9	44.8	48.1	2.8	1.4	2.2
Female	26.5	31.6	33.4	3	1.1	2.1
Total	33.7	40	42.6	2.9	1.3	2.2

Source: NSSO various rounds.

Education and Skills: Perhaps, the biggest albatross that weighs negatively on the prospects for women entering the workforce in agriculture is the abysmally low level of education and skills. It constrains their ability to take independent action, especially in the context of commercialisation of agriculture, introduction of new techniques, marketing innovations and crop diversification. They are also not able to benefit from the measures meant for improving the lot of farmers. While the position of women is pathetic, that of men is not much better (Table 14). Seventy four per cent of women farmers and 46 per cent of

male farmers are either illiterate or have below primary education. The condition is worse among agricultural labourers, with 86 per cent of women and 66 per cent of men being illiterate or educated below primary level. Improving the access of women to quality education and skills is one of the most urgent requirements. It is well known that investment in education delivers high returns in terms of poverty reduction as well. In Asia, it is estimated that agricultural productivity increases by an average of 4 per cent for every one year increase in formal schooling (Byerlee, Diao *et al* 2005).

Table 14 : Percentage Distribution of Rural Agricultural Workers by Level of Educational Attainment, 2004-2005

Education Level	Male	Female	Total	Male	Female	Total
	Agricultural Labourers			Farmers		
Illiterate & Below Primary	65.9	85.5	74.1	45.7	74.0	57.5
Primary	15.7	7.5	12.3	16.2	10.8	14.0
Middle	13.3	5.3	10.0	18.9	9.5	15.0
Secondary	3.7	1.2	2.6	10.3	3.9	7.6
HS & Above	1.5	0.4	1.0	8.9	1.9	6.0
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source : Computed from NSSO Employment and Unemployment Survey, 2004-05.

Skill levels, like education, are low overall but more so for women. There is no systematic data on training and skills of the workforce but based on the results of the NSSO (2004-05), the NCEUS provides a skill profile of youth (15-29 years). Survey respondents were asked whether they possessed or were taking formal or informal training. Results show that gender differences in skill training are significant among the trained, both among those who have received formal training and among those who received informal training. A lower proportion of women (8.9 per cent) than men

(13.9 per cent) in both rural and urban areas received vocational training (formal and informal). Formal skills were confined to 3.1 per cent women in this age group compared to 4.5 per cent men. About 5.8 per cent women had informally acquired the skills compared to 9.4 per cent men.

Education provides a strong enabling foundation for the acquisition of skills. The NCEUS report (NCEUS 2009) finds a pattern when education is examined in conjunction with training. Women at all levels of education

tend to have a lower incidence of training compared to men. Within this 'given', non-formal training is higher among those with lower levels of education (up to middle level) and declines thereafter. Correspondingly, the proportion of formally trained persons is larger among the more educated youth. As the report states, "the issue therefore is not that persons with lower levels of education cannot acquire skills but that the existing training systems are oriented towards providing formal training only to those persons with higher levels of education" (NCEUS 2009, p20-21).

The relationship between education levels and skills also vary across social groups. The share of persons with formal skills increases from STs, SCs, OBCs, to Others in that order. Indeed it is the general caste categories for whom the incidence of training is higher than the average of 3.8 per cent. The NCEUS does a multivariate analysis and presents the likelihood of certain variables which impact the formal training by sex, residence and education. It emerges that the likelihood that a person gets formal training is 91 per cent more if he/she comes from an urban area as opposed to a rural area. Similarly, a male is 14 per cent more likely to be trained compared to a female (the disparities would go up in rural areas). Providing rural women with relevant skills and consulting them in designing training programmes is therefore, of utmost importance.

Low Participation of Women in Collective Forums : Low participation of women in collective forums works to their distinct disadvantage. Membership in cooperatives, producer credit organisations and community based natural resource management groups are dominated by men. Since most assets are owned by men, it is they who automatically become members, even though it may be the women who work on the assets.

As common property resources (CPRs) get depleted and access to them becomes ever more difficult, the cost to women in terms of their workload and health goes up. Group approaches, through SHGs or cooperatives, are frequently advocated as a panacea to ensure access to water, trees and forests and other natural resources. Joint ownership or leasing and operation, or usufructuary rights over productive assets (land, trees, ponds, CPRs) among women farmers through joint activities is emphasised (NCEUS 2008, Gol, Planning Commission 2007, Agarwal 2003). These pool and augment land, labour and financial resources and avail of economies of scale. Women's groups in some states, for instance the *Kudumbashree* in Kerala, show that when women come together as a collective, they can overcome the constraint of access to productive assets and play a critical role in improving the social and economic status of their families. Indeed, it is said that the future of Indian farming lies in different types of group approaches (NCF II Report).

Some state governments have taken up programmes to distribute land to poor women, but often they have remained on paper. When governments fail to act, women have organised themselves and collectively taken control of village land and started joint cultivation. Roma (2009) recounts the course of one such struggle in the Sonbhadra district of Uttar Pradesh and quotes the angry quip of one woman, 'whenever it is a question of distribution of land to the poor the government says there is no land, but when thousands of acres of land has to be given to companies the government acquires it forcibly or otherwise at very cheap rates' (Roma 2009). It is therefore time the government took up the agenda of land distribution giving priority to women.

In brief, the best way to overcome the problems faced by scores of small and marginal

female farmers is to bring them together in jointly cultivated farms. This should be taken up together with the programme of land distribution to poor women. This will go a long way in harnessing the productivity of land and the skills of women and reaping the benefits of economies of scale.

Other Constraints: The Eleventh Plan Sub-group on Gender and Agriculture (Planning Commission 2007) highlighted the role of women in agriculture, livestock dairying and agro-processing, but notes that in all these areas extension programmes are designed mainly for men. Moreover, prevailing gender stereotypes assume that only men are users of technology and machines. Increasing feminisation means that more women will be the users of new farm implements, innovations or technologies. For success in this, it is important that training and extension programmes are especially targeted to women; that their time and mobility norms are kept in mind, and that they are consulted and their views taken into account. This will improve the chances that these innovations will be adopted. In research done in several developing countries, results show that innovations were either not adopted or led to undesirable consequences when they were imposed without being discussed with women workers (Ashby, Hartl et al quoted in IFAD 2002).

As more women enter the workforce, it is essential to ensure equitable access to a wide range of financial services and savings, credit and insurance products to women. The Situation Assessment Survey of Farmers (NSSO 2005) shows that women farmers have lower access to credit from formal institutional sources and to extension services compared to male farmers. Also Kisan Credit Cards are issued to men by virtue of the fact that they have land, but women who do not have any assets are denied these. It is now being

recommended that women farmers be given Kisan Credit Cards on the basis of joint pattas on land (Planning Commission 2007).

The capacity of the agricultural sector to absorb the increasing labour force is limited and there is a need to diversify to non-farm employment. Many women will require help in moving out of agriculture and into the non-farm economy.

Developing rural infrastructure (roads, power, water) and markets, improving skills, finding niche markets, strengthening rural urban linkages, macro-enterprise development are essential for the shift to the non-farm sector.

Conclusion

In conclusion, this paper examines the oft-stated proposition that as men move out of agriculture to urban areas, there has been a feminisation of agriculture. The data from the agricultural census as well as NSSO surveys show that this is indeed the case, albeit, the pace of feminisation is very gradual. As more women take up decision making roles in agriculture, their ability to improve their well-being and contribute to agricultural dynamism is constrained by many factors that have been analysed in this paper.

We show that,

1. Gender disaggregated data on operational holdings establish that despite being predominantly engaged in agriculture the share of women in operational holdings is very low. However, though the proportion of holdings controlled by women is small, it has been increasing, albeit gradually.
2. There are large inter-state variations in the proportion of holdings controlled by women. Punjab has the lowest share and Kerala the highest.

3. The proportion of female holdings declines with size of holding. This makes the task difficult for women because small farms face many challenges: market linkages are poor, productivity is low and farmers have less access to training, credit and inputs. For feminisation to have beneficial impacts, policy makers need to prioritise resources to small farmers.
 4. Women from scheduled tribes have the lowest share in operational holdings, followed by scheduled castes. Women belonging to the general castes have relatively the highest share in holdings.
 5. Female agricultural labour are doubly disadvantaged in that they receive lower wages compared to men and at the same time get lesser days of employment.
 6. In Asia, it is estimated that agricultural productivity increases by an average of 4 per cent for every one year increase in formal schooling. But in India, 74 per cent of women farmers and 86 per cent of women agricultural labourers are either illiterate or educated below primary level. Skill levels are also very low. Enhancing education and skill levels with specially designed programmes is therefore, of utmost importance.
 7. Most importantly, women must be given greater access to land and encouraged to pool and augment their land, labour and financial resources. There have been successful innovative initiatives in group based farming in several states that should be replicated in other areas.
- Feminisation can be an empowering process as women, long kept shackled by patriarchal norms and structures, step out to enter the world of work and take up its challenges and benefit from its opportunities. However, the empowering potential of feminisation of agriculture in India will be realised only if the many constraints that limit women's capabilities are addressed.

Notes

1. The usual principal and subsidiary status (UPSS) concept of a worker as defined by the NSSO is used in this paper.
2. See Bina Agarwal, 'Landmark step to gender equality' <http://www.hindu.com/mag/2005/09/25/stories/2005092500050100.htm>, and <http://www.indianexpress.com/oldStory/77251>

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