

Are Indian female-headed households more vulnerable to poverty?

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1. Introduction

It has often been argued that, women are a deprived and discriminated lot, with limited access to resources (World Bank, 1991). Studies (Barros, Fox and Mendonca, 1997; Buvinic and Gupta, 1997) have shown that, both in developing and developed countries, female headed households (FHHs) have different socioeconomic and demographic characteristics as compared to the male headed households (MHHs). For instance, Kossoudji and Mueller (1983) and Barros, Fox and Mendonca (1997) maintain that FHHs have been increasing in rural and urban areas. The literature also argues that these households are more likely to be poor, at any point in time, compared to the MHHs (Kossoudji and Mueller, 1983; Goldberg and Cremen, 1990).

The purpose of this paper is to investigate whether FHHs in India are more vulnerable to poverty compared to MHHs. This is important because, according to the National Sample Survey (NSS) publications, the Indian head of the household is a mere reference point, without necessarily any income earning responsibility, or authority. If the NSS is correct, then there should not be any significant difference in the incidence of poverty between the two types of households. If, on the other hand, there is a difference,

not only is the listing of the sex of the head an important variable, but the incidence of gender bias also becomes an issue.

While there are several studies dealing with poverty in India,¹ only a few² of them deal with the socio-economic status and characteristics of the FHHs in India.³ The findings of some of these studies do not support the international evidence cited above. Visaria and Visaria (1985) report that, the proportion of FHHs in India declined marginally in both rural and urban sectors between 1961 and 1971. They, however, argue that the two census data may not be strictly comparable. Dreze and Srinivasan (1995) find that FHHs are *less* poor than MHHs in rural India. The data used by them is the 42nd round (1986-87) of the National Sample Survey (NSS) consumer expenditure data. The coverage of this (thin) sample is limited compared to the more detailed, and bigger, survey done every five years. The current paper uses the data from the last three large samples, the 43rd, 50th and 55th consumer expenditure surveys (1987-88, 1993-94 and 1999-2000). The so-called thin samples, surveyed every year, cover about 40 per cent of the total households in each of these “large” samples.

The international literature refers to the varying incidence of poverty in the two types of households, as a reflection of the inherent gender bias (against women) in society. While checking for the hypotheses already in the literature, we add a further dimension to these issues. If poverty incidence reflects a gender bias, it is important to investigate where it originates. If it is in the workplace, such biases have to be fought

¹ See Gangopadhyay, Jain and Dubey (1997) for a list.

² Visaria and Visaria (1985), Dreze and Srinivasan (1995).

³ There are several studies which look at the poverty incidence and other socioeconomic characteristics of the FHHs. However, these studies are based on area specific surveys. See for example several papers in Jain and Banerjee (1985). Dreze and Srinivasan (1995) is the only exception. They use NSS data on household expenditure to study the poverty incidence in rural India. Among others, Visaria and Visaria (1985) have used NSS data for only two states, Maharashtra and Gujarat, in their study.

differently from the case where it originates within the household. If the bias is in the workplace, policy measures like affirmative action may be a way out. On the other hand, if the bias against the girl child originates in the household, policies must aim at improving the awareness within the family. To combat the first, one requires the strict enforcement of laws. The second is a deeper social problem, and laws alone may not help.

Girls may be discriminated against within the household if less household resources are spent on them compared to what is spent on the boys. Or, girls could be made to spend more time in household chores while boys spend their time learning skills that will make them economically productive. This will often show up in boys having more schooling than girls. Like human capital, girls may be discriminated against in the physical capital they own --- inherited land may go more to boys than girls. We will investigate these possibilities also.

The paper is organized in the following fashion. Section 2 describes two alternative ways that gender bias can work, both resulting in a higher incidence of poverty among FHHs. Section 3, presents some descriptive statistics from the datasets we are using. Section 4 contains our empirical findings and Section 5 concludes the paper.

2. Gender Bias

We conduct the analysis based on the sex of the head of the household. For the purposes of the surveys, the NSS (1987) defines a household as “(a) group of persons normally living together and taking food from a common kitchen”. It is apparent from this

definition that, members of the household may or may not be blood relations.⁴ However, there are no such guidelines in identifying the “head of the household”. Most people using the Indian data argue that the head of the household is a mere reference point in the household during the course of the survey. In other works (Barros, Fox and Mendonca 1997; Buvinic and Gupta 1997), the head of the household is defined to be one with authority and/or income earning responsibility.

However, if the head of the household is only a reference point, without any economic responsibility, there is no immediate reason for the sex of the head to be correlated with the poverty level of the household. We should not observe any obvious difference in the incidence of poverty in FHHs vis-à-vis MHHs. On the other hand, if there is a difference, the head could be more than a mere reference point. This is not to say that, if there is no significant difference in the incidence of poverty between the two types of households then there is no gender bias. For instance, there could be social biases against FHHs, which may not get reflected in the incidence of (income) poverty, or for that matter, in any obvious economic outcome.

If FHHs and MHHs have different incidences of poverty, we will assume that the head is not a reference point. This is because, as far as consumption is related to income earning potential, the sex of the head may be determining the income earning potential of the household and hence, the poverty level.

Gender bias can operate in (one or both of) two different ways. First, women may be discriminated against in the workplace; discriminating employers may prefer males to female applicants. Alternatively, women may not be hired in well-paying jobs, not because the employer discriminates against them, but because he (or she) does not find

⁴ For finer details, please refer to NSS (1987).

them suitable for such jobs. This could happen if the job requires skills, and women are less skilled than males. This will get reflected in lower incomes among females.

If women are less skilled than males, then the responsibility for this kind of discrimination lies within the household, where the parents train, or educate, the boy child more than the girl child. While less schooling means less of human capital, there is another reason why females may earn less income. In particular, they may own less of income generating physical capital. For urban areas, the NSS does not give data on the household ownership of physical assets. In rural areas, however, the data reports the amount of cultivable land owned by each household. Cultivable land is obviously one of the most important income generating assets in rural India.

3. Descriptive Statistics

A. Poverty Incidence

Before we get into the data, it is worthwhile mentioning a somewhat serious problem with the comparability of the 1999-00 (55th round) data with those of 1987-88 and 1993-94 (43rd and 50th rounds, respectively). In the 55th round, households were asked about their consumption expenditures in the last 30 days of the survey, as well as in the last 7 days of the survey. This has prompted many researchers to question the validity of one or both the variables and, the general presumption is that this has led to an over-valuation of consumption (Deaton, 2002; Sunderam and Tendulkar, 2002; Sen, 2002; etc.). In other words, this has led to under-estimation in the incidence of poverty.

In as far as we are comparing FHHs and MHHs in the *same* year, this may not be a concern for us, unless the FHHs and the MHHs responded differently to the two

questions. Nevertheless, we have included another set of data to test the veracity of our results. The NSS also carries out an employment survey in the same years as the consumption surveys. In the 43rd and 50th rounds, the employment and consumption surveys were conducted on the same set of households. In the 55th round, however, the households covered by the employment survey were different from, and almost the same number as, those of the consumption survey. More importantly, for the employment survey, the only question asked on consumption was the value in the last 30 days --- there was no mention of the last 7 days. One would, therefore, not expect any bias of the type suggested for the consumption survey. For the 55th round, therefore, we report results from two sets of data --- those coming from the consumption survey and those from the employment survey.

We divide the country into the rural and urban sectors. In each sector, we classify the households into two different categories --- MHHs and FHHs. Table 1 reports the incidence of poverty using the simple head-count-ratio (HCR). At the all India level, FHHs and MHHs seem to have very little difference in poverty incidence. In 1987-88 and 1993-94 there is no statistically significant difference between the two groups of households. This is similar to what was reported by Dreze and Srinivasan (1995) who used the smaller sample of 1986-87. In 1999-00, however, FHHs were statistically better off but only marginally so by the consumption survey and more than marginally by the employment survey.

In the rural sector, however, FHHs had significantly lower HCRs by 1993-94 and this trend continued in 1999-00 in both the consumption and employment surveys. The urban sector, however, is much different from the rural sector in terms of the poverty

incidence in the two types of households. Here, FHHs have significantly higher incidence of poverty in all years.

B. Marital Status

In the last sub-section, we found that, on the face of it, the FHHs are not more vulnerable to poverty in the rural sector but are definitely so in the urban sector. Is it that there is no gender bias in poverty incidence in the rural sector? Or, is it that the bias exists in both sectors, but is not manifested in the incidence of rural poverty? Alternatively, are we missing the real picture by failing to identify the intrinsic feature of an FHH? For instance, Dreze and Srinivasan (1995) have argued that widows are worse off than any other section of the (household) population.

The data lists four different marital states: never married, currently married, widow/widower and divorced/separated. In three of these categories, the spouse does not exist. In the case of a currently married female head of a household, the spouse (husband) exists but is not residing in the same house. We will argue that this is an important difference in the two sets of FHH households.

In most male dominated societies, it is unlikely that a married woman will be considered the head of the household in the presence of her husband. One explanation for observing currently married FHHs could be that the husband is working, as migrant labour, outside the place where the household is located. According to the definition of what constitutes a household, a member not staying regularly in the household cannot be counted as a part of the household.⁵ Thus, most of the currently married FHHs could be

⁵ Refer to NSS (1987) for details of the definition of the household.

(economically) maintained, or their incomes supplemented by husbands working elsewhere.

Table 2 gives the distribution of poverty incidence of currently married household's vis-à-vis the set consisting of the other three groups. For MHHs, the proportion of currently married is similar in rural and urban sectors in all years. Currently married rural FHHs, on the other hand, are less than 20 per cent of all rural FHHs in all years, a number significantly lower than the proportions of currently married urban FHHs. More significant is the fact that in the first two surveys (1987-88 and 1993-94) there was very little difference in the poverty incidence between currently married and not currently married rural FHHs. In 1999-00, however, the not currently married FHHs had lower incidence of poverty than the currently married FHHs in both the consumption and employment surveys. This is very different in the urban sector, where the not currently married FHHs had higher poverty incidence in all years, when compared to the currently married FHHs.

Also evident from Table 2, is the fact that the HCR in currently married rural FHHs is not significantly different from that in the currently married MHHs. In the urban sector, in 1999-00, the currently married MHHs actually fare worse than the currently married FHHs. The same is true in the rural sector in 1993-94.

This brings us back to the earlier discussion on the head being a reference point and, not necessarily with any income earning responsibility. If the currently married FHHs have migrant husbands residing elsewhere, then the classification of the head in these households could indeed be a reference point. However, this need not be the case

in the other three categories --- never married, widowed and divorced/separated. Indeed, the HCRs in these three categories are significantly different across the FHHs and the MHHs. The FHHs experience a higher incidence of poverty than their male counterparts, across all three years, in both sectors. While the differences are less pronounced in the rural areas, they are quite sharp in urban areas.

We have already noted that the incidence of poverty is higher among urban FHHs. So, at first glance, the sex of the head in the urban sector is correlated with the differential impact of poverty. Currently married urban FHHs and MHHs had very similar HCRs in the first two of the three rounds being analyzed here, while in the third round, currently married FHHs were better off. For the rural sector, we suggested that currently married FHHs could be those that are maintained by male, migrant labourers. A similar hypothesis could be used for the urban sector as well. It is not uncommon for men in transferable jobs to maintain their households in one place, especially for reasons like children's education. Also, just as rural labour migrates from villages to urban centres, labour from small towns migrates to big towns. The NSS urban area definition includes towns ranging from those with 10,000 people to those with more than 10 million!

C. Human and Physical Capital

The data suggest that in terms of household poverty incidence, the gender of the household head can be important. This could be due to certain economic characteristics that MHHs have, that are different from those of FHHs. In particular, we look at the years of schooling of the household head in both rural and urban sectors (Table 3).

The not currently married female heads have lower levels of average schooling than their male counterparts in each sector. This trend has continued through the three time points covering more than a decade.⁶ This is in spite of the fact that, on the average, the years of schooling has been rising. Another noticeable trend is that among all categories, urban heads have more schooling than rural heads.

When one compares the amount of cultivable land owned by rural households, FHHs again come out as losers on the average (Table 4). As in the case of schooling, both currently married as well as not currently married FHHs have significantly smaller land holdings than their male counterparts. Clearly, then, in terms of both physical and human capital, FHHs are worse off than the MHHs.

4. Empirical Analysis

In the last section, we saw that when we break up the households by marital status, there are significant differences in poverty incidence among MHHs and FHHs. This was observed, more or less, at all the three time-points. We now investigate more closely whether this apparent gender bias has anything to do with an inherent bias girls face within the household. Our hypothesis is that they do --- it all starts in the household. For this inference, we have to be able to demonstrate that once we control for education and/or ownership of other income earning assets, FHHs are not more vulnerable to poverty than the MHHs. In the process, we will also be able to shed some light on the Indian debate whether the head of the household is a mere reference point.

⁶ The same is true for the currently married FHHs in most cases. By, 1999-00, however, the proportion of currently married female heads with higher education was not significantly different from currently married MHHs, in the urban sector.

In the urban sector, we hypothesize that the probability of a household being poor depends on the education and sex of the head, as well as the household size. Education is captured by the level of schooling of the head of the household (EDU). The levels are the same as those in Table 3, increasing as we go higher up the scale. We include household size (HHS) as an explanatory variable in order to control for the scale effect. Larger households tend to have a higher probability of being poor, *ceteris paribus*. The urban dependent variable (POVU) is a binary zero-one variable, which takes on a value of one if the household's per capita consumption expenditure is below the poverty line, zero otherwise. The poverty line used is the one adjusted for inter-state price differentials. To capture the effects of the sex of the head, we employ a dummy FHD, which takes the value 1 if the household is an FHH and 0 otherwise. We are considering only those households where the head is not currently married, as these were the households where there is a significant difference in poverty incidence by the sex of the head.

The results of the logit estimation of the model, for the urban sector are presented in Table 5. There are four parts to the Table, one for 1987-88, one for 1993-94 and, two for 1999-00. Recall that there was a problem with the methodology for the last survey and so we are using data from both the employment and the consumer surveys. In 1987-88, FHHs had a higher incidence of poverty even after controlling for the education of the head --- the coefficient on FHD is significant and positive. In 1993-94, and again for both the surveys in 1999-00, this result is no longer valid --- the coefficients on FHD were insignificant. This suggests that by 1993-94, not currently married urban FHHs showed a higher incidence of poverty because they were less educated than their male counterparts.

Results for the rural sector are presented in Table 6. The variables here are the same as that for the urban sector with one difference. The rural part of the survey also collects data on land cultivated by the household. We use the total cultivable land with the households, a measure of physical capital, as an additional explanatory variable.

Here again, we have the same story as in the urban sector. In 1987-88 FHHs had a higher incidence of poverty even after controlling for education and their total cultivable land. 1993-94 onwards, this result was no longer valid and FHHs were not more vulnerable to poverty if we controlled for the human capital and physical assets owned by them.

A question that remains is how these two forms of capital play a role in influencing the incidence of poverty. Education could open up employment and income earning opportunities in urban areas, where economic activities are more sophisticated (Dubey, Gangopadhyay and Wadhwa, 2002). Some may argue that, in the rural sector, it is difficult to imagine that education will have such a big impact on income earning opportunities. Probably, it is cultivable land that has a more important role to play.

We, therefore, estimate two other sets of models for the rural sector. In one we control for total cultivable land alone, and in the other only education is controlled for. Table 7 gives the results for land alone. Interestingly, in all four survey data sets, the coefficient on FHD was positive and significant.⁷ In other words, possession of land was not sufficient to neutralize the higher poverty incidence among FHHs. However, when we estimate the model with education alone (Table 8), we get back the result we obtained in the model that controlled for both education and land. Clearly then, even in rural

⁷ The coefficient on FHD was significant at 5% for 1987-88, 1993-94 and the consumption survey of 1999-00. It was significant at 10% for the employment survey of 1999-00.

areas, it is the presence of education that seems to get rid of the bias in poverty incidence of FHHs.⁸

Why is this happening? Table 3 shows that the level education has been rising for the not currently married female heads since 1987-88. At the same time land holdings have been falling (Table 4). However, both these statements are true for the MHHs as well. An immediate inference could be that people with lower amounts of physical capital become more educated, regardless of whether they are males or females. In other words, human capital may be viewed as a substitute for physical capital. This, however, would also suggest that such capital “accumulation” allow people to earn higher incomes.

So is it the case that a greater number of female heads are in the work place? Table 9 gives the employment status of male and female heads. The first part of the Table lists the labor force participation of both types of heads among all rural households. The first observation here is that a slightly higher proportion of female heads work *outside* the house than male heads. This is true for all the years. The second observation to make is the difference associated with marital status of the heads and their sex. Among MHHs, currently married heads have much higher labor participation than those not currently married. This is the exact opposite of what we observe among FHHs --- single female heads have a much higher labor force participation rate than those who are currently married.

⁸ We also have data on the per capita expenditure (PCTE) for each of the surveyed households. As a check of our logit analysis, we regressed the level of PCTE on the same independent variables. The results are the same as what we have so far and, hence, not presented here.

The second part of Table 9 compares labor force participation rates among those who possess no land. It is possible to get a return from land and not work outside the house; it is impossible to earn a monetary return from human capital without working! The data show that the participation of single male heads is no different than that of single female heads. On the other hand, the participation rates of single male heads is lower than that of their currently married counterparts; for the female heads the single ones have a significantly higher participation rate than the currently married ones.

So, we have two important facts --- a larger proportion of single female heads, compared to the currently married female heads, work and that, single female heads have a labor force participation rate no less than that of their male counterparts. Both of these suggest that female heads are as important in their income earning responsibility as the male heads. This then makes it consistent with our earlier observation that education could lead to better earnings in the households headed by single females. This is in addition to the well recognized fact that mother's education is positively correlated with schooling of children. So, it is also possible that an educated female head by encouraging her children to complete threshold levels of education increases the earning capability of her entire household. Regardless of the method in which it works, education is associated with households being better off.

This brings us back to one of our basic questions --- where does the gender bias originate? We had said that if household heads of earlier generations discriminated against the girl child, households headed by single females will be disadvantaged in the market place as they will be less educated than their male siblings. This situation will be aggravated if the (labor) market discriminated against females. On the other hand, if the

market place did not discriminate, then equally trained males and females will do equally well. Our econometric analysis shows that once education is controlled for, FHHs are not any more vulnerable to poverty than the MHHs. This and Table 9 (female heads have income earning responsibility as much as male heads do), together suggest that the gender bias seen in the larger incidence of poverty among households headed by single females could be the result of a discrimination they faced when they were children.

5. Conclusion

The data suggest that there is a gender bias in the poverty incidence, if we categorize households not only by the sex of the household but also by their marital status. We then looked at how the bias works. There are two possibilities. One, employers may discriminate against prospective female employees, giving them lower wages or not hiring them in the better paying jobs. Two, households may not invest in the formation of human capital in the girl child, with the boys getting preference. This manifests itself in the adult female being less trained, and/or skilled, for the more demanding and well-paying jobs, forcing the employers to screen them out. A direct empirical test of these gender issues will be to compare the incomes earned by similarly trained males and females. However, data on incomes are hard to come by in India. Also, poverty is calculated using actual consumption. Hence, we tested whether female headed households were more vulnerable to poverty than male headed ones, and how much of this difference could be explained by female education and land holding.

Our major conclusions are the following. Not currently married FHHs appear to be more vulnerable to poverty. This is not because their heads are females, but because

their heads have less education. Since education is the result of decisions made in the household, this suggests a gender disadvantage that is perpetrated within the household. Our analyses also lead us to the conclusion that the head of the household is not a mere reference point but does have an economic impact.

Table 1: Poverty Incidence by Type of Household

	1987-88		1993-94		1999-00			
	Sample Size	HCR	Sample Size	HCR	Consumption		Employment	
	Sample Size	HCR	Sample Size	HCR	Sample Size	HCR	Sample Size	HCR
All India								
MHHs	109874	34.05 (0.003)	103920	31.16 (0.005)	108358	21.53 (0.003)	108033	28.03 (0.004)
FHHs	11621	34.43 (0.006)	11314	30.88 (0.011)	11873	20.33 (0.006)*	12184	25.84 (0.006)*
Rural								
MHHs	71435	35.36 (0.004)	62665	33.23 (0.006)	64466	22.71 (0.004)	64132	29.95 (0.004)
FHHs	7582	34.66 (0.007)	6474	30.60 (0.012)*	6869	20.43 (0.007)*	7170	25.50 (0.008)*
Urban								
MHHs	38439	29.86 (0.005)	41255	25.13 (0.006)	43892	18.36 (0.005)	43901	22.98 (0.005)
FHHs	4039	33.67 (0.013)*	4840	31.64 (0.021)*	5004	20.05 (0.010)**	5014	26.88 (0.011)*

Standard errors in parentheses

* indicates significantly different at 5 % from the corresponding figure for the male-headed household

** indicates significantly different at 10 % from the corresponding figure for the male-headed household

HCR head count ratio
MHH male-headed household
FHH female-headed household

HCR has been calculated using Planning Commission poverty lines

Table 2: Distribution and Poverty Incidence of Households by Marital Status

	1987-88		1993-94		1999-00			
	Proportion	HCR	Proportion	HCR	Consumption		Employment	
					Proportion	HCR	Proportion	HCR
Rural								
MHHs CM	90.33	36.17 (0.004)	91.20	33.81 (0.005)	91.45	23.23 (0.004)	91.80	30.59 (0.005)
MHHs NCM	9.67	27.84 (0.007)	8.80	27.07 (0.017)	8.55	17.10 (0.008)	8.20	22.68 (0.009)
FHHs CM	31.93	35.03 (0.012)	28.95	30.56 (0.014)*	29.51	23.99 (0.014)	32.18	30.45 (0.014)
FHHs NCM	68.07	34.49 (0.009)*	71.05	30.61 (0.015)*	70.49	18.93 (0.008)**	67.82	23.15 (0.009)
Urban								
MHHs CM	89.45	31.13 (0.005)	89.38	26.22 (0.006)	89.48	18.95 (0.005)	90.07	23.67 (0.005)
MHHs NCM	10.55	19.07 (0.013)	10.62	15.95 (0.013)	10.52	13.38 (0.011)	9.93	16.73 (0.013)
FHHs CM	19.86	29.08 (0.021)	18.26	25.00 (0.019)	19.27	14.80 (0.017)*	19.92	17.46 (0.018)*
FHHs NCM	80.14	34.81 (0.015)*	81.74	33.20 (0.026)*	80.73	21.30 (0.011)*	80.08	29.25 (0.012)*

Standard errors in parentheses

* indicates significantly different at 5 % from the corresponding figure for the male-headed household

** indicates significantly different at 10 % from the corresponding figure for the male-headed household

HCR head count ratio

MHH male-headed household

FHH female-headed household

CM currently married head of household

NCM not currently married head of household --- includes never married, widowed and divorced/separated categories

HCR has been calculated using Planning Commission poverty lines

Table 3: Distribution of Schooling (%)

	1987-88		1993-94		1999-00			
	NCM	CM	NCM	CM	Consumption		Employment	
					NCM	CM	NCM	CM
Rural								
MHHs Ill+semi lit	72.56 (0.008)	70.22 (0.003)	70.22 (0.016)	68.20 (0.004)	66.36 (0.011)	62.66 (0.004)	65.33 (0.012)	61.90 (0.004)
MHHs Primary	12.43 (0.006)	13.79 (0.002)	9.79 (0.009)	12.08 (0.003)	11.12 (0.007)	11.93 (0.002)	10.79 (0.007)	12.53 (0.002)
MHHs Sec+H.sec	13.42 (0.005)	14.42 (0.002)	16.37 (0.016)	17.71 (0.003)	20.55 (0.009)	22.59 (0.003)	21.31 (0.010)	22.81 (0.003)
MHHs Graduate	1.60 (0.002)	1.57 (0.001)	3.62 (0.014)	2.01 (0.001)	1.92 (0.002)	2.83 (0.001)	2.57 (0.003)	2.76 (0.028)
FHHs Ill+semi lit	92.91 (0.005)*	83.48 (0.009)*	89.22 (0.019)*	79.04 (0.012)*	88.10 (0.010)*	74.79 (0.012)*	88.74 (0.007)*	75.71 (0.012)*
FHHs Primary	4.33 (0.003)*	8.93* (0.007)	4.69 (0.005)*	9.43 (0.008)*	5.30 (0.004)*	10.02 (0.008)*	5.57 (0.005)*	8.96 (0.007)*
FHHs Sec+H.sec	2.53 (0.003)*	7.32 (0.006)*	5.92 (0.020)*	10.71 (0.008)*	6.21 (0.008)*	14.13 (0.010)*	5.37 (0.005)*	14.55 (0.010)*
FHHs Graduate	0.23 (0.001)*	0.28 (0.001)*	0.17 (0.001)*	0.83 (0.002)*	0.40 (0.002)*	1.06 (0.003)*	0.32 (0.001)*	0.79 (0.002)*
Urban								
MHHs Ill+semi lit	29.44 (0.015)	35.53 (0.006)	30.77 (0.022)	33.20 (0.007)	30.05 (0.013)	29.03 (0.006)	26.99 (0.012)	28.89 (0.005)
MHHs Primary	16.49 (0.010)	17.12 (0.003)	11.64 (0.010)	13.27 (0.003)	13.42 (0.009)	11.46 (0.003)	13.92 (0.011)	11.62 (0.003)
MHHs Sec+H.sec	42.61 (0.016)	35.69 (0.005)	44.38 (0.022)	38.63 (0.005)	42.80 (0.014)	41.68 (0.006)	45.43 (0.016)	41.82 (0.005)
MHHs Graduate	11.46 (0.012)	11.66 (0.003)	13.21 (0.013)	14.89 (0.004)	13.74 (0.009)	17.84 (0.005)	13.66 (0.011)	17.67 (0.005)
FHHs Ill+semi lit	65.16 (0.018)*	50.57 (0.023)*	58.17 (0.031)*	45.26 (0.024)*	59.55 (0.016)*	36.20 (0.026)*	63.35 (0.013)*	35.87 (0.024)*
FHHs Primary	12.18 (0.008)*	16.19 (0.017)	11.57 (0.018)	12.44 (0.019)	9.75 (0.007)*	13.73 (0.016)	9.57 (0.006)*	13.13 (0.015)
FHHs Sec+H.sec	18.83 (0.018)*	26.18 (0.020)*	24.86 (0.032)*	33.92 (0.023)*	22.44 (0.013)*	37.59 (0.025)	22.07 (0.011)*	36.19 (0.023)*
FHHs Graduate	3.83 (0.005)*	7.05 (0.011)*	5.40 (0.010)*	8.37 (0.012)*	8.25 (0.015)*	12.48 (0.015)*	5.01 (0.006)*	14.81 (0.029)

Standard errors in parentheses

* indicates significantly different at 5 % from the corresponding figure for the male-headed household

MHH male-headed household
 FHH female-headed household
 CM currently married head of household
 NCM not currently married head of household --- includes never married, widowed and divorced/separated categories

Table 4: Distribution of Cultivable Land (hectares)

	1987-88		1993-94		1999-00			
					Consumption		Employment	
	MHHs	FHHs	MHHs	FHHs	MHHs	FHHs	MHHs	FHHs
Rural								
NCM	1.08 (0.032)	0.47 (0.020)*	0.91 (0.057)	0.44 (0.0023)*	0.71 (0.026)	0.31 (0.016)*	0.69 (0.025)	0.35 (0.017)*
CM	1.14 (0.015)	0.50 (0.024)*	1.03 (0.034)	0.49 (0.0028)*	0.77 (0.013)	0.31 (0.021)*	0.78 (0.013)	0.33 (0.021)*

Standard errors in parentheses

* indicates significantly different at 5 % from the corresponding figure for the male-headed household

MHH male-headed household

FHH female-headed household

CM currently married head of household

NCM not currently married head of household --- includes never married, widowed and divorced/separated categories

Table 5: Logit Results of Incidence of Poverty Among FHHs and MHHs in the Urban Sector

Dependent Variable: POVU				
Explanatory Variable	Coefficient	Standard Error	z	P > z
1987-88				
Constant	-0.611	0.089	-6.84	0.000
FHD	0.154	0.066	2.33	0.020
EDU	-0.572	0.026	-22.40	0.000
HHS	0.198	0.011	17.44	0.000
Sample	7075			
Log Likelihood	-3218.883			
1993-94				
Constant	-0.430	0.089	-4.85	0.000
FHD	0.098	0.065	1.50	0.133
EDU	-0.612	0.024	-25.24	0.000
HHS	0.165	0.012	13.92	0.000
Sample	7884			
Log Likelihood	-3364.315			
1999-00 Consumption				
Constant	-1.173	0.096	-12.20	0.000
FHD	0.006	0.071	0.09	0.929
EDU	-0.510	0.026	-19.83	0.000
HHS	0.176	0.011	15.42	0.000
Sample	8359			
Log Likelihood	-2966.118			
1999-00 Employment				
Constant	-0.816	0.091	-8.94	0.000
FHD	0.059	0.067	0.88	0.377
EDU	-0.561	0.024	-23.28	0.000
HHS	0.192	0.011	16.88	0.000
Sample	8189			
Log Likelihood	-3261.208			

POVU binary dependent variable for the urban sector, which takes on value one if the household is below the poverty line and zero, otherwise

FHD dummy for female headed households

EDU education level of the head of the household

HHS household size

Table 6: Logit Results of Incidence of Poverty Among FHHs and MHHs in the Rural Sector

Dependent Variable: POVR				
Explanatory Variable	Coefficient	Standard Error	z	P > z
1987-88				
Constant	-0.834	0.063	-13.15	0.000
FHD	0.151	0.047	3.25	0.001
EDU	-0.508	0.028	-18.29	0.000
LCULT	-0.333	0.021	-16.14	0.000
HHS	0.198	0.009	22.78	0.000
Sample	11713			
Log Likelihood	-6156.790			
1993-94				
Constant	-0.753	0.067	-11.16	0.000
FHD	-0.047	0.051	-0.92	0.358
EDU	-0.441	0.028	-15.93	0.000
LCULT	-0.003	0.0002	-12.72	0.000
HHS	0.160	0.010	16.78	0.000
Sample	9455			
Log Likelihood	-4980.314			
1999-00 Consumption				
Constant	-1.539	0.081	-18.97	0.000
FHD	-0.065	0.060	-1.09	0.277
EDU	-0.446	0.032	-13.94	0.000
LCULT	-0.005	0.0004	-12.40	0.000
HHS	0.216	0.011	20.48	0.000
Sample	9974			
Log Likelihood	-3993.662			
1999-00 Employment				
Constant	-1.244	0.072	-17.21	0.000
FHD	-0.134	0.054	-2.47	0.013
EDU	-0.367	0.026	-14.08	0.000
LCULT	-0.003	0.0003	-10.19	0.000
HHS	0.183	0.010	19.16	0.000
Sample	9822			
Log Likelihood	-4647.273			

POVR binary dependent variable for the rural sector, which takes on value one if the household is below the poverty line and zero, otherwise

FHD dummy for female headed households

EDU education level of the head of the household

LCULT total land cultivated by the household, hectares; HHS household size

Table 7: Logit Results of Incidence of Poverty Among FHHs and MHHs in the Rural Sector

Dependent Variable: POVR				
Explanatory Variable	Coefficient	Standard Error	z	P > z
1987-88				
Constant	-1.706	0.047	-36.49	0.000
FHD	0.391	0.045	8.73	0.000
LCULT	-0.340	0.020	-16.73	0.000
HHS	0.198	0.009	23.34	0.000
Sample	11713			
Log Likelihood	-6366.339			
1993-94				
Constant	-1.543	0.051	-30.56	0.000
FHD	0.169	0.049	3.42	0.001
LCULT	-0.003	0.0002	-12.98	0.000
HHS	0.159	0.009	17.04	0.000
Sample	9455			
Log Likelihood	-5138.502			
1999-00 Consumption				
Constant	-2.381	0.062	-38.64	0.000
FHD	0.179	0.057	3.12	0.002
LCULT	-0.005	0.0004	-12.58	0.000
HHS	0.217	0.010	20.94	0.000
Sample	9974			
Log Likelihood	-4116.633			
1999-00 Employment				
Constant	-1.992	0.054	-36.78	0.000
FHD	0.089	0.052	1.71	0.087
LCULT	-0.003	0.0003	-10.58	0.000
HHS	0.189	0.009	20.14	0.000
Sample	9822			
Log Likelihood	-4765.164			

POVR binary dependent variable for the rural sector, which takes on value one if the household is below the poverty line and zero, otherwise

FHD dummy for female headed households

LCULT total land cultivated by the household, hectares

HHS household size

Table 8: Logit Results of Incidence of Poverty Among FHHs and MHHs in the Rural Sector

Dependent Variable: POVR				
Explanatory Variable	Coefficient	Standard Error	z	P > z
1987-88				
Constant	-0.852	0.062	-13.70	0.000
FHD	0.251	0.046	5.48	0.000
EDU	-0.523	0.028	-18.96	0.000
HHS	0.126	0.007	16.91	0.000
Sample	11713			
Log Likelihood	-6363.885			
1993-94				
Constant	-0.790	0.066	-11.88	0.000
FHD	0.061	0.050	1.20	0.230
EDU	-0.446	0.027	-16.23	0.000
HHS	0.099	0.008	11.95	0.000
Sample	9455884			
Log Likelihood	-5110.489			
1999-00 Consumption				
Constant	-1.569	0.080	-19.62	0.000
FHD	0.058	0.059	1.00	0.319
EDU	-0.453	0.032	-14.27	0.000
HHS	0.148	0.009	15.96	0.000
Sample	9974			
Log Likelihood	-4127.524			
1999-00 Employment				
Constant	-1.236	0.072	-17.26	0.000
FHD	-0.065	0.054	-1.22	0.222
EDU	-0.376	0.026	-14.48	0.000
HHS	0.136	0.008	16.03	0.000
Sample	9822			
Log Likelihood	-4726.653			

POVR binary dependent variable for the rural sector, which takes on value one if the household is below the poverty line and zero, otherwise

FHD dummy for female headed households

EDU education level of the head of the household

HHS household size

Table 9: Proportion of Rural Households with Heads Working Outside the Household*

	1987-88		1993-94		1999-00**	
					Employment	
	NCM	CM	NCM	CM	NCM	CM
Rural --- All Households						
MHH	0.31	0.42	0.33	0.42	0.32	0.45
FHH	0.37	0.19	0.37	0.22	0.36	0.21
Rural --- Households with no Cultivable Land						
MHH	0.50	0.69	0.53	0.69	0.45	0.68
FHH	0.49	0.29	0.48	0.33	0.45	0.29

* Working outside the household includes those employed in regular wage/salaried job, casual wage labour and other types of work.

** There is no employment information in the consumption survey of 1999-00.

MHH male-headed household

FHH female-headed household

CM currently married head of household

NCM not currently married head of household --- includes never married, widowed and divorced/separated categories

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