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## More Than 100 Million Women Are Missing

Amartya SenDECEMBER 20, 1990 ISSUE

It is often said that women make up a majority of the world's population. They do not. This mistaken belief is based on generalizing from the contemporary situation in Europe and North America, where the ratio of women to men is typically around 1.05 or 1.06, or higher. In South Asia, West Asia, and China, the ratio of women to men can be as low as 0.94, or even lower, and it varies widely elsewhere in Asia, in Africa, and in Latin America. How can we understand and explain these differences, and react to them?

### 1.

At birth, boys outnumber girls everywhere in the world, by much the same proportion—there are around 105 or 106 male children for every 100 female children. Just why the biology of reproduction leads to this result remains a subject of debate. But after conception, biology seems on the whole to favor women. Considerable research has shown that if men and women receive similar nutritional and medical attention and general health care, women tend to live noticeably longer than men. Women seem to be, on the whole, more resistant to disease and in general hardier than men, an advantage they enjoy not only after they are forty years old but also at the beginning of life, especially during the months immediately following birth, and even in the womb. When given the same care as males, females tend to have better survival rates than males.<sup>1</sup>

Women outnumber men substantially in Europe, the US, and Japan, where, despite the persistence of various types of bias against women (men having distinct advantages in higher education, job specialization, and promotion to senior executive positions, for example), women suffer little discrimination in basic nutrition and health care. The greater number of women in these countries is partly the result of social and environmental differences that increase mortality among men, such as a higher likelihood that men will die from violence, for example, and from diseases related to smoking. But even after these are taken into account, the longer lifetimes enjoyed by women given similar care appear to relate to the biological advantages that women have over men in resisting disease. Whether the higher frequency of male births over female births has evolutionary links to this potentially greater survival rate among women is a question of some interest in itself. Women seem to have lower death rates than men at most ages whenever they get roughly similar treatment in matters of life and death.

The fate of women is quite different in most of Asia and North Africa. In these places the failure to give women medical care similar to what men get and to provide them with comparable food and social services results in fewer women surviving than would be the case if they had equal care. In India, for example, except in the period immediately following birth, the death rate is higher for women than for men fairly consistently in all age groups until the late thirties. This relates to higher rates of disease from which women suffer, and ultimately to the relative neglect of females, especially in health care and medical attention.<sup>2</sup> Similar neglect of women vis-à-vis men can be seen also in many other parts of the world. The result is a lower proportion of women than would be the case if they had equal care—in most of Asia and North Africa, and to a lesser extent Latin America.

This pattern is not uniform in all parts of the third world, however. Sub-Saharan Africa, for example, ravaged as it is by extreme poverty, hunger, and famine, has a substantial excess rather than deficit of women, the ratio of women to men

being around 1.02. The “third world” in this matter is not a useful category, because it is so diverse. Even within Asia, which has the lowest proportion of women in the world, Southeast Asia and East Asia (apart from China) have a ratio of women to men that is slightly higher than one to one (around 1.01). Indeed, sharp diversities also exist within particular regions—sometimes even within a particular country. For example, the ratio of women to men in the Indian states of Punjab and Haryana, which happen to be among the country’s richest, is a remarkably low 0.86, while the state of Kerala in southwestern India has a ratio higher than 1.03, similar to that in Europe, North America, and Japan.

To get an idea of the numbers of people involved in the different ratios of women to men, we can estimate the number of “missing women” in a country, say, China or India, by calculating the number of extra women who would have been in China or India if these countries had the same ratio of women to men as obtain in areas of the world in which they receive similar care. If we could expect equal populations of the two sexes, the low ratio of 0.94 women to men in South Asia, West Asia, and China would indicate a 6 percent deficit of women; but since, in countries where men and women receive similar care, the ratio is about 1.05, the real shortfall is about 11 percent. In China alone this amounts to 50 million “missing women,” taking 1.05 as the benchmark ratio. When that number is added to those in South Asia, West Asia, and North Africa, a great many more than 100 million women are “missing.” These numbers tell us, quietly, a terrible story of inequality and neglect leading to the excess mortality of women.

## 2.

To account for the neglect of women, two simplistic explanations have often been presented or, more often, implicitly assumed. One view emphasizes the cultural contrasts between East and West (or between the Occident and the Orient), claiming that Western civilization is less sexist than Eastern. That women outnumber men in Western countries may appear to lend support to this Kipling-like generalization. (Kipling himself was not, of course, much bothered by concerns about sexism, and even made “the twain” meet in romantically masculine circumstances: “But there is neither East nor West, Border, nor Breed, nor Birth,/When two strong men stand face to face, tho’ they come from the ends of the earth!”) The other simple argument looks instead at stages of economic development, seeing the unequal nutrition and health care provided for women as a feature of underdevelopment, a characteristic of poor economies awaiting economic advancement.

There may be elements of truth in each of these explanations, but neither is very convincing as a general thesis. To some extent, the two simple explanations, in terms of “economic development” and “East-West” divisions, also tend to undermine each other. A combined cultural and economic analysis would seem to be necessary, and, I will argue, it would have to take note of many other social conditions in addition to the features identified in the simple aggregative theses.

To take the cultural view first, the East-West explanation is obviously flawed because experiences within the East and West diverge so sharply. Japan, for example, unlike most of Asia, has a ratio of women to men that is not very different from that in Europe or North America. This might suggest, at least superficially, that real income and economic development do more to explain the bias against providing women with the conditions for survival than whether the society is Western or Oriental. In the censuses of 1899 and 1908 Japan had a clear and substantial deficit of women, but by 1940 the numbers of men and women were nearly equal, and in the postwar decades, as Japan became a rich and highly industrialized country, it moved firmly in the direction of a large surplus, rather than a deficit, of women. Some countries in East Asia and Southeast Asia also provide exceptions to the deficit of women; in Thailand and Indonesia, for example, women substantially outnumber men.

In its rudimentary, indiscriminating form, the East-West explanation also fails to take into account other characteristics of these societies. For example, the ratios of women to men in South Asia are among the lowest in the world (around 0.94 in India and Bangladesh, and 0.90 in Pakistan—the lowest ratio for any large country), but that region has been among the pioneers in electing women as top political leaders. Indeed, each of the four large South Asian countries—India, Pakistan,

Bangladesh, and Sri Lanka—either has had a woman as the elected head of government (Sri Lanka, India, and Pakistan), or has had women leading the main opposition parties (as in Bangladesh).

It is, of course, true that these successes in South Asia have been achieved only by upper-class women, and that having a woman head of government has not, by itself, done much for women in general in these countries. However, the point here is only to question the tendency to see the contrast between East and West as simply based on more sexism or less. The large electoral successes of women in achieving high positions in government in South Asia indicate that the analysis has to be more complex.

It is, of course, also true that these women leaders reached their powerful positions with the help of dynastic connections—Indira Gandhi was the daughter of Jawaharlal Nehru, Benazir Bhutto the daughter of Zulfikar Bhutto, and so on. But it would be absurd to overlook—just on that ground—the significance of their rise to power through popular mandate. Dynastic connections are not new in politics and are pervasive features of political succession in many countries. That Indira Gandhi derived her political strength partly from her father's position is not in itself more significant than the fact that Rajiv Gandhi's political credibility derived largely from his mother's political eminence, or the fact (perhaps less well known) that Indira Gandhi's father—the great Jawaharlal Nehru—initially rose to prominence as the son of Motilal Nehru, who had been president of the Congress party. The dynastic aspects of South Asian politics have certainly helped women to come to power through electoral support, but it is still true that so far as winning elections is concerned, South Asia would seem to be some distance ahead of the United States and most European countries when it comes to discrimination according to gender.

In this context it is useful also to compare the ratios of women in American and Indian legislatures. In the US House of Representatives the proportion of women is 6.4 percent, while in the present and the last lower houses of the Indian Parliament, women's proportions have been respectively 5.3 and 7.9 percent. Only two of the 100 US Senators are women, and this 2 percent ratio contrasts with more than 9 and 10 percent women respectively in the last and present "upper house," Rajya Sabha, in India. (In a different, but not altogether unrelated, sphere, I had a much higher proportion of tenured women colleagues when I was teaching at Delhi University than I now have at Harvard.) The cultural climate in different societies must have a clear relevance to differences between men and women—both in survival and in other ways as well—but it would be hopeless to see the divergences simply as a contrast between the sexist East and the unbiased West.

How good is the other (i.e., the purely economic) explanation for women's inequality? Certainly all the countries with large deficits of women are more or less poor, if we measure poverty by real incomes, and no sizable country with a high gross national product per head has such a deficit. There are reasons to expect a reduction of differential female mortality with economic progress. For example, the rate of maternal mortality at childbirth can be expected to decrease both with better hospital facilities and the reduction in birth rate that usually accompanies economic development.

However, in this simple form, an economic analysis does not explain very much, since many poor countries do not, in fact, have deficits of women. As was noted earlier, sub-Saharan Africa, poor and underdeveloped as it is, has a substantial excess of women. Southeast and East Asia (but not China) also differ from many other relatively poor countries in this respect, although to a lesser degree. Within India, as was noted earlier, Punjab and Haryana—among the richest and most economically advanced Indian states—have very low ratios of women to men (around 0.86), in contrast to the much poorer state of Kerala, where the ratio is greater than 1.03.

Indeed, economic development is quite often accompanied by a relative worsening in the rate of survival of women (even as life expectancy improves in absolute terms for both men and women). For example, in India the gap between the life expectancy of men and women has narrowed recently, but only after many decades when women's relative position deteriorated. There has been a steady decline in the ratio of women to men in the population, from more than 97 women to 100 men at the turn of the century (in 1901), to 93 women in 1971, and the ratio is only a little higher now. The

deterioration in women's position results largely from their unequal sharing in the advantages of medical and social progress. Economic development does not invariably reduce women's disadvantages in mortality.

A significant proportional decline in the population of women occurred in China after the economic and social reforms introduced there in 1979. The Chinese Statistical Yearbooks show a steady decline in the already very low ratio of women to men in the population, from 94.32 in 1979 to 93.42 in 1985 and 1986. (It has risen since then, to 93.98 in 1989—still lower than what it was in 1979). Life expectancy was significantly higher for females than for males until the economic reforms, but seems to have fallen behind since then.<sup>3</sup> Of course, the years following the reforms were also years of great economic growth and, in many ways, of social progress, yet women's relative prospects for survival deteriorated. These and other cases show that rapid economic development may go hand in hand with worsening relative mortality of women.

### 3.

Despite their superficial plausibility, neither the alleged contrast between “East” and “West,” nor the simple hypothesis of female deprivation as a characteristic of economic “underdevelopment” gives us anything like an adequate understanding of the geography of female deprivation in social well-being and survival. We have to examine the complex ways in which economic, social, and cultural factors can influence the regional differences.

It is certainly true that, for example, the status and power of women in the family differ greatly from one region to another, and there are good reasons to expect that these social features would be related to the economic role and independence of women. For example, employment outside the home and owning assets can both be important for women's economic independence and power; and these factors may have far-reaching effects on the divisions of benefits and chores within the family and can greatly influence what are implicitly accepted as women's “entitlements.”

Indeed, men and women have both interests in common and conflicting interests that affect family decisions; and it is possible to see decision making in the family taking the form of the pursuit of cooperation in which solutions for the conflicting aspects of family life are implicitly agreed on. Such “cooperative conflicts” are a general feature of many group relations, and an analysis of cooperative conflicts can provide a useful way of understanding the influences that affect the “deal” that women get in the division of benefits within the family. There are gains to be made by men and women through following implicitly agreed-on patterns of behavior; but there are many possible agreements—some more favorable to one party than others. The choice of one such cooperative arrangement from among the range of possibilities leads to a particular distribution of joint benefits. (Elsewhere, I have tried to analyze the general nature of “cooperative conflicts” and the application of the analysis of such conflicts to family economics.<sup>4</sup>)

Conflicts in family life are typically resolved through implicitly agreed-on patterns of behavior that may or may not be particularly egalitarian. The very nature of family living—sharing a home and experiences—requires that the elements of conflict must not be explicitly emphasized (giving persistent attention to conflicts will usually be seen as aberrant behavior); and sometimes the deprived woman would not even have a clear idea of the extent of her relative deprivation. Similarly, the perception of who is doing “productive” work, who is “contributing” how much to the family's prosperity, can be very influential, even though the underlying principles regarding how “contributions” or “productivity” are to be assessed may be rarely discussed explicitly. These issues of social perception are, I believe, of pervasive importance in gender inequality, even in the richer countries, but they can have a particularly powerful influence in sustaining female deprivation in many of the poorer countries.<sup>5</sup>

The division of a family's joint benefits is likely to be less unfavorable to women if (1) they can earn an outside income; (2) their work is recognized as productive (this is easier to achieve with work done outside the home); (3) they own some economic resources and have some rights to fall back on; and (4) there is a clear-headed understanding of the ways in which women are deprived and a recognition of the possibilities of changing this situation. This last category can be much

influenced by education for women and by participatory political action.

Considerable empirical evidence, mostly studies of particular localities, suggests that what is usually defined as “gainful” employment (i.e., working outside the home for a wage, or in such “productive” occupations as farming), as opposed to unpaid and unhonored housework—no matter how demanding—can substantially enhance the deal that women get.<sup>6</sup> Indeed, “gainful” employment of women can make the solution of “cooperative conflicts” less unfavorable to women in many ways. First, outside employment for wages can provide women with an income to which they have easier access, and it can also serve as a means of making a living on which women can rely, making them less vulnerable. Second, the social respect that is associated with being a “bread winner” (and a “productive” contributor to the family’s joint prosperity) can improve women’s status and standing in the family, and may influence the prevailing cultural traditions regarding who gets what in the division of joint benefits. Third, when outside employment takes the form of jobs with some security and legal protection, the corresponding rights that women get can make their economic position much less vulnerable and precarious. Fourth, working outside the home also provides experience of the outside world, and this can be socially important in improving women’s position within the family. In this respect outside work may be “educational” as well.

These factors may not only improve the “deal” women get in the family, they can also counter the relative neglect of girls as they grow up. Boys are preferred in many countries because they are expected to provide more economic security for their parents in old age; but the force of this bias can be weakened if women as well as men can regularly work at paid jobs. Moreover, if the status of women does in general rise and women’s contributions become more recognized, female children may receive more attention. Similarly, the exposure of women to the world through work outside the home can weaken, through its educational effect, the hold of traditional beliefs and behavior.

In comparing different regions of Asia and Africa, if we try to relate the relative survival prospects of women to the “gainful employment” of both sexes—i.e., work outside the home, possibly for a wage—we do find a strong association. If the different regions of Asia and Africa (with the exception of China) are ranked according to the proportion of women in so-called gainful employment relative to the proportion of men in such employment, we get the following ranking, in descending order:<sup>7</sup>

1. Sub-Saharan Africa
2. Southeast and Eastern Asia
3. Western Asia
4. Southern Asia
5. Northern Africa

Ranking the ratios of life expectancy of females to those of males produces a remarkably similar ordering:

1. Sub-Saharan Africa
2. Southeast and Eastern Asia
3. Western Asia
4. Northern Africa
5. Southern Asia

That the two rankings are much the same, except for a switch between the two lowest-ranking regions (lowest in terms of both indicators), suggests a link between employment and survival prospects. In addition to the overall correspondence between the two rankings, the particular contrasts between sub-Saharan Africa and North Africa, and that between Southern (and Western) Asia and Southeast (and Eastern) Asia are suggestive distinctions *within* Africa and Asia respectively, linking women’s gainful employment and survival prospects.

It is, of course, possible that what we are seeing here is not a demonstration that gainful employment causes better survival

prospects but the influence of some other factor correlated with each. In fact, on the basis of such broad relations, it is very hard to draw any firm conclusion; but evidence of similar relations can be found also in other comparisons.<sup>8</sup> For example, Punjab, the richest Indian state, has the lowest ratio of women to men (0.86) in India; it also has the lowest ratio of women in “gainful” employment compared to men. The influence of outside employment on women’s well-being has also been documented in a number of studies of specific communities in different parts of the world.<sup>9</sup>

#### 4.

The case of China deserves particular attention. It is a country with a traditional bias against women, but after the revolution the Chinese leaders did pay considerable attention to reducing inequality between men and women.<sup>10</sup> This was helped both by a general expansion of basic health and medical services accessible to all and by the increase in women’s gainful employment, along with greater social recognition of the importance of women in the economy and the society.

There has been a remarkable general expansion of longevity, and despite the temporary setback during the terrible famines of 1958–1961 (following the disastrous failure of the so-called Great Leap Forward), the Chinese life expectancy at birth increased from the low forties around 1950 to the high sixties by the time the economic reforms were introduced in 1979. The sharp reduction in general mortality (including female mortality) is all the more remarkable in view of the fact that it took place despite deep economic problems in the form of widespread industrial inefficiency, a rather stagnant agriculture, and relatively little increase in output per head. Female death rates declined sharply—both as a part of a general mortality reduction and also relatively, vis-à-vis male mortality. Women’s life expectancy at birth overtook that of men—itsself much enhanced—and was significantly ahead at the time the economic and social reforms were introduced in 1979.

Those reforms immediately increased the rate of economic growth and broke the agricultural stagnation. The official figures suggest a doubling of agricultural output between 1979 and 1986—a remarkable achievement even if some elements of exaggeration are eliminated from these figures. But at the same time, the official figures also record an *increase* in the general mortality rates after the reforms, with a consistently higher death rate than what China had achieved by 1979. There seems to be also a worsening of the relative survival of women, including a decline, discussed earlier, of the ratio of women to men in the population, which went down from 94.3 in 1979 to 93.4 in 1985 and 1986. There are problems in interpreting the available data and difficulties in arriving at firm conclusions, but the view that women’s life expectancy has again become lower than that of men has gained support. For example, the World Bank’s most recent *World Development Report* suggests a life expectancy of sixty-nine years for men and sixty-six years for women (even though the confounded nature of the subject is well reflected by the fact that the same *Report* also suggests an average life expectancy of seventy years for men and women put together).<sup>11</sup>

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Why have women’s survival prospects in China deteriorated, especially in relative terms, since 1979? Several experts have noted that recently Chinese leaders have tended, on the whole, to reduce the emphasis on equality for women; it is no longer much discussed, and indeed, as the sociologist Margery Wolf puts it, it is a case of a “revolution postponed.”<sup>12</sup> But this fact, while important, does not explain why the relative survival prospects of women would have so deteriorated during the early years of the reforms, just at the time when there was a rapid expansion of overall economic prosperity.

The compulsory measures to control the size of families which were introduced in 1979 may have been an important factor. In some parts of the country the authorities insisted on the “one-child family.” This restriction, given the strong preference for boys in China, led to a neglect of girls that was often severe. Some evidence exists of female infanticide. In the early years after the reforms, infant mortality for girls appeared to increase considerably. Some estimates had suggested that the rate of female infant mortality rose from 37.7 per thousand in 1978 to 67.2 per thousand in 1984.<sup>13</sup> Even if this seems exaggerated in the light of later data, the survival prospects of female children clearly have been unfavorably

affected by restrictions on the size of the family. Later legal concessions (including the permission to have a second child if the first one is a girl) reflect some official recognition of these problems.

A second factor relevant to the survival problems of Chinese women is the general crisis in health services since the economic reforms. As the agricultural production brigades and collectives, which had traditionally provided much of the funding for China's extensive rural health programs, were dismantled, they were replaced by the so-called "responsibility system," in which agriculture was centered in the family. Agricultural production improved, but cutbacks in communal facilities placed severe financial restrictions on China's extensive rural medical services. Communal agriculture may not have done much for agricultural production as such, but it had been a main source of support for China's innovative and extensive rural medical services. So far as gender is concerned, the effects of the reduced scope of these services are officially neutral, but in view of the pro-male bias in Chinese rural society, the cutback in medical services would have had a particularly severe impact on women and female children. (It is also the pro-male bias in the general culture that made the one-child policy, which too is neutral in form, unfavorable to female children in terms of its actual impact.)

Third, the "responsibility system" arguably has reduced women's involvement in recognized gainful employment in agriculture. In the new system's more traditional arrangement of work responsibilities, women's work in the household economy may again suffer from the lack of recognition that typically affects household work throughout the world.<sup>14</sup> The impact of this change on the status of women within the household may be negative, for the reasons previously described. Expanded employment opportunities for women outside agriculture in some regions may at least partially balance this effect. But the weakening of social security arrangements since the reforms would also have made old age more precarious, and since such insecurity is one of the persistent motives for families' preferring boys over girls, this change too can be contributing to the worsening of care for female children.<sup>15</sup>

## 5.

Analyses based on simple conflicts between East and West or on "under-development" clearly do not take us very far. The variables that appear important—for example, female employment or female literacy—combine both economic and cultural effects. To ascribe importance to the influence of gainful employment on women's prospects for survival may superficially look like another attempt at a simple economic explanation, but it would be a mistake to see it this way. The deeper question is why such outside employment is more prevalent in, say, sub-Saharan Africa than in North Africa, or in Southeast and Eastern Asia than in Western and Southern Asia. Here the cultural, including religious, backgrounds of the respective regions are surely important. Economic causes for women's deprivation have to be integrated with other—social and cultural—factors to give depth to the explanation.

Of course, gainful employment is not the only factor affecting women's chances of survival. Women's education and their economic rights—including property rights—may be crucial variables as well.<sup>16</sup> Consider the state of Kerala in India, which I mentioned earlier. It does not have a deficit of women—its ratio of women to men of more than 1.03 is closer to that of Europe (1.05) than those of China, West Asia, and India as a whole (0.94). The life expectancy of women at birth in Kerala, which had already reached sixty-eight years by the time of the last census in 1981 (and is estimated to be seventy-two years now), is considerably higher than men's sixty-four years at that time (and sixty-seven now). While women are generally able to find "gainful employment" in Kerala—certainly much more so than in Punjab—the state is not exceptional in this regard. What is exceptional is Kerala's remarkably high literacy rate; not only is it much higher than elsewhere in India, it is also substantially higher than in China, especially for women.

Kerala's experience of state-funded expansion of basic education, which has been consolidated by left-wing state governments in recent decades, began, in fact, nearly two centuries ago, led by the rulers of the kingdoms of Travancore and Cochin. (These two native states were not part of British India; they were joined together with a small part of the old Madras presidency to form the new state of Kerala after independence.) Indeed, as early as 1817, Rani Gouri Parvathi Bai, the young queen of Travancore, issued clear instructions for public support of education:

The state should defray the entire cost of education of its people in order that there might be no backwardness in the spread of enlightenment among them, that by diffusion of education they might be better subjects and public servants and that the reputation of the State might be advanced thereby.<sup>17</sup>

Moreover, in parts of Kerala, property is usually inherited through the family's female line. These factors, as well as the generally high level of communal medicine, help to explain why women in Kerala do not suffer disadvantages in obtaining the means for survival. While it would be difficult to "split up" the respective contributions made by each of these different influences, it would be a mistake not to include all these factors among the potentially interesting variables that deserve examination.

In view of the enormity of the problems of women's survival in large parts of Asia and Africa, it is surprising that these disadvantages have received such inadequate attention. The numbers of "missing women" in relation to the numbers that could be expected if men and women received similar care in health, medicine, and nutrition, are remarkably large. A great many more than a hundred million women are simply not there because women are neglected compared with men. If this situation is to be corrected by political action and public policy, the reasons why there are so many "missing" women must first be better understood. We confront here what is clearly one of the more momentous, and neglected, problems facing the world today.

#### Letters

*The Kerala Difference* October 24, 1991

- 1 An assessment of the available evidence can be found in Ingrid Waldron's "The Role of Genetic and Biological Factors in Sex Differences in Mortality," in A.D. Lopez and L.T. Ruzicka, eds., *Sex Differences in Mortality* (Canberra: Department of Demography, Australian National University, 1983). On the pervasive cultural influences on mortality and the difficulties in forming a biological view of survival advantages, see Sheila Ryan Johansson, "Mortality, Welfare and Gender: Continuity and Change in Explanations for Male/Female Mortality Differences over Three Centuries," in *Continuity and Change*, forthcoming. ↵
- 2 These and related data are presented and assessed in my joint paper with Jocelyn Kynch, "Indian Women: Wellbeing and Survival," *Cambridge Journal of Economics*, Vol. 7 (1983), and in my *Commodities and Capabilities* (Amsterdam: North-Holland, 1985), Appendix B. See also Lincoln Chen et al., "Sex Bias in the Family Allocation of Food and Health Care in Rural Bangladesh," in *Population and Development Review*, Vol. 7 (1981); Barbara Miller, *The Endangered Sex: Neglect of Female Children in Rural North India* (Cornell University Press, 1981); Pranab Bardhan, *Land, Labor, and Rural Poverty* (Columbia University Press, 1984); Devaki Jain and Nirmala Banerji, eds., *Tyranny of the Household* (New Delhi: Vikas, 1985); Barbara Harriss and Elizabeth Watson, "The Sex Ratio in South Asia," in J.H. Momsen and J.G. Townsend, eds., *Geography of Gender in the Third World* (State University of New York Press, 1987); Monica Das Gupta, "Selective Discrimination against Female Children in Rural Punjab, India," in *Population and Development Review*, Vol. 13 (1987). ↵
- 3 See the World Bank's *World Development Report 1990* (Oxford University Press, 1990), Table 32. See also Judith Banister, *China's Changing Population* (Stanford University Press, 1987), Chapter 4, though the change in life expectancy may not have been as large as these early estimates had suggested, as Banister herself has later noted. ↵
- 4 "Gender and Cooperative Conflicts," Working Paper of the World Institute of Development Economics Research (1986), in Irene Tinker, ed., *Persistent Inequalities: Women and World Development* (Oxford University Press, 1990). In the same volume see also the papers of Ester Boserup, Hanna Papanek, and Irene Tinker on closely related subjects. ↵
- 5 The recent literature on the modeling of family relations as "bargaining problems," despite being usefully suggestive and insightful, has suffered a little from giving an inadequate role to the importance of perceptions (as opposed to objectively identified interests) of the parties involved. On the relevance of perception, including perceptual distortions (a variant of what Marx had called "false perception"), in family relations, see my "Gender and Cooperative Conflicts." See also my *Resources, Values and Development* (Harvard University Press, 1984), Chapters 15 and 16; Gail Wilson, *Money in the Family* (Avebury/Gower, 1987). ↵
- 6 See the case studies and the literature cited in my "Gender and Cooperative Conflicts." A pioneering study of some of these issues was provided by Ester Boserup, *Women's Role in Economic Development* (St. Martin's, 1970). See also Bina Agarwal, "Social Security and the Family," in E. Ahmad, et al., *Social Security in Developing Countries*, to be published by Oxford University Press in 1991. ↵
- 7 Details can be found in my "Gender and Cooperative Conflicts." ↵
- 8 For example, see Pranab Bardhan, *Land, Labor, and Rural Poverty* on different states in India and the literature cited there. ↵
- 9 See the literature cited in my "Gender and Cooperative Conflicts." ↵
- 10 See Elisabeth Croll, *Chinese Women Since Mao* (M.E. Sharpe, 1984). ↵
- 11 See *World Development Report 1990*, Tables 1 and 32. See also banister, *China's Changing Population*, Chapter 4, and Athar Hussain and Nicholas Stern, *On the recent increase in death rate in China*, China Paper #8 (London: STICERD/London School of Economics, 1990). ↵
- 12 See Margery Wolf, *Revolution Postponed: Women in Contemporary China* (Stanford University Press, 1984). ↵
- 13 See Banister, *China's Changing Population*, Table 4.12. ↵
- 14 On this and related matters, see Nahid Aslanbeigui and Gale Summerfield, "The Impact of the Responsibility System on Women in Rural China: A Theoretical Application of Sen's Theory of



Entitlement,” in *World Development*, Vol. 17 (1989). ↵

15 These and other aspects of the problem are discussed more extensively in my joint book with Jean Drèze, *Hunger and Public Action* (Oxford University Press, 1989). ↵

16 For interesting investigations of the role of education, broadly defined, in influencing women’s well-being in Bangladesh and India, see Martha Chen, *A Quiet Revolution: Women in Transition in Rural Bangladesh* (Schenkman Books, 1983); and Alaka Basu, *Culture, the Status of Women and Demographic Behavior* (New Delhi: National Council of Applied Economic Research, 1988). ↵

17 Kerala has also had considerable missionary activity in schooling (a fifth of the population is, in fact, Christian), has had international trading and political contacts (both with east and west Asia) for a very long time, and it was from Kerala that the great Hindu philosopher and educator Sankaracarya, who lived during AD 788–820, had launched his big movement of setting up centers of study and worship across India. ↵

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