
Women's Status: Levels, Determinants, Consequences for Malnutrition, Interventions, and Policy

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Abstract. *This paper uses a gendered conceptual framework of the determinants of child survival, growth, and development to organize a review of the latest evidence on the strength of causal linkages between child nutrition outcomes and the relative status of women in seven Asian countries. Using a variety of indicators, the paper demonstrates the considerable variation in the status of women relative to men in the seven countries. Of the seven study countries, the status of women relative to men is lowest in Pakistan, India, and Bangladesh. The paper also reaffirms that equality in women's status relative to men's, controlling for a host of socioeconomic factors, has a positive impact on child growth and discourages the intergenerational perpetuation of gender-based discrimination. The paper explores some of the economic and cultural explanations for the relatively poor status of women in the countries in question and draws out implications for policy and project design. Efforts to modify policy and project design to counter gender discrimination will rely on the effective monitoring of the status of women and the supportiveness of the enabling legal environment.*

Introduction

Women are key in generating good nutrition and household food security. They have the greatest potential to make decisions that positively affect child survival. However, the position and status of women strongly influences their ability to make decisions to realize that potential. Women's position and status is formed around a series of cultural and economic factors such as resource use, ownership, control, legal and ideological

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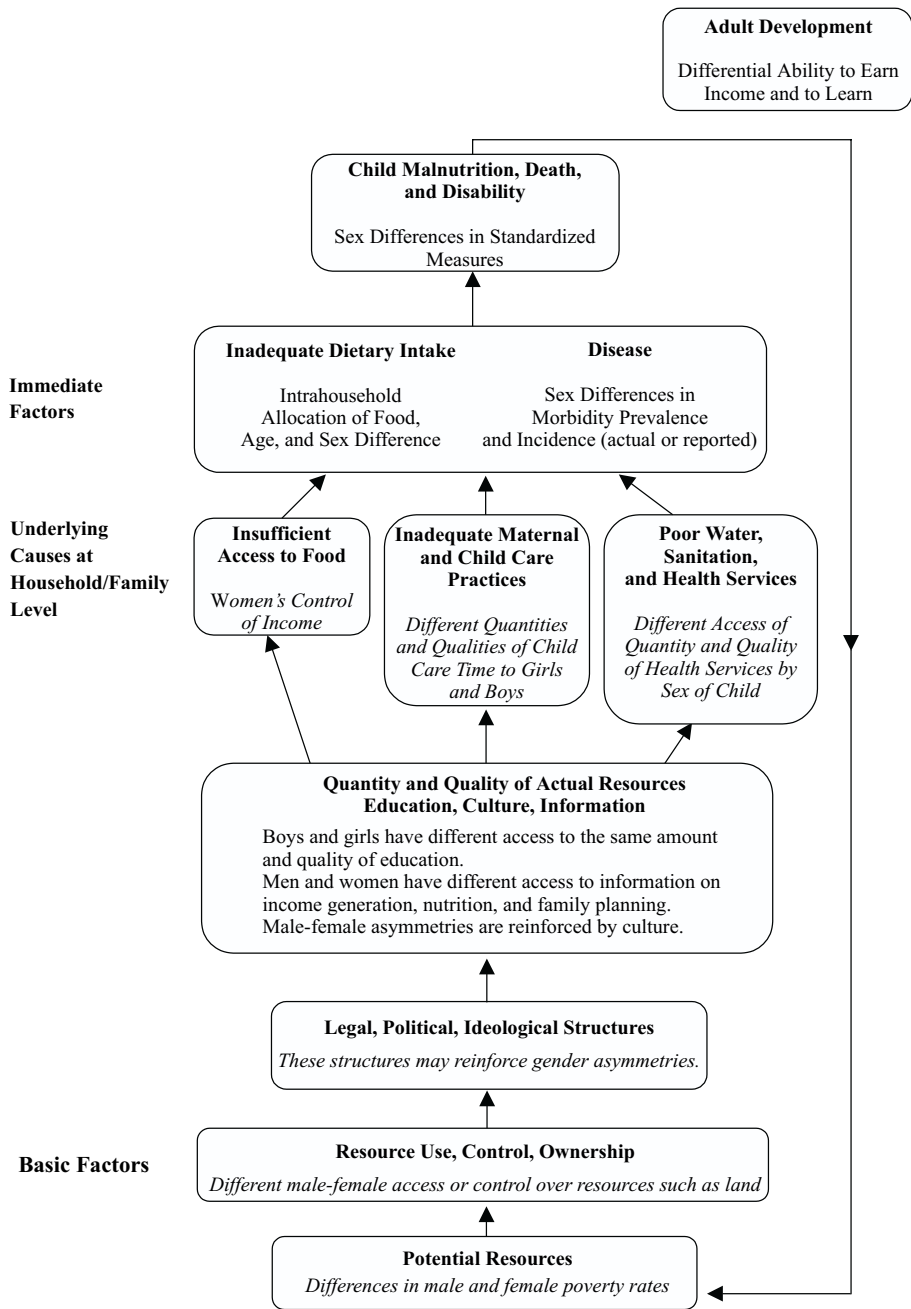
structures, and education and information. The status and position of women is reflected by their ability to take decisions in the spending of household income, the quantity and quality of child care they are able to provide, and health-seeking behaviors (including family planning decisions). The outcomes of decisions based on women's status and position also inform us about their status and position. How food is allocated within the household, differences in the treatment of boys and girls in terms of their psychosocial security, differences in morbidity between boys and girls, differences in standardized anthropometric measures between boys and girls, and differences in sex-specific mortality rates are all informative in this regard.

This paper summarizes the literature on these topics. The following section provides a gendered version of the standard United Nations Children's Fund (UNICEF) conceptual model for child growth and nutrition. Later sections review the evidence on women's status (including gender and poverty), the consequences of women's status for child growth and malnutrition, household food security, income generation, and intrahousehold resource allocation (toward infant females in particular), and the determinants of women's status—both economic and sociological. The final sections present broad types of policy and program changes that could improve the status of women, and hence of infants, and conclude with some suggestions of actions to improve women's status.

Conceptual Framework

The importance of the status and position of women in child survival is summarized in Figure 1, which is a "gendered" version of the UNICEF framework (UNICEF 1998). The conceptual framework begins with the basic factors underlying nutrition status. If women are over-represented in poor households, this is a strike against nutrition. Poor women are likely to be poorly nourished, which has serious implications for the nutrition status of their yet-to-be born children, and the birth weight of newly born children. Adult female undernutrition also constrains the ability of women to earn income, which tends to impair the nutrition status of their existing children. Women with control over resources tend to have a larger say in how the household allocates resources, and women are typically more likely to skew resources to the production of nutrition. If, however, the legal, political, and ideological structures in society do not reinforce women's rights to, say, own land, or get access to credit and family planning, then this control can be usurped. Education is crucial for income generation and behavioral change. If girls do not receive the same educational opportunities as boys, this has important negative consequences for their total fertility rate, their labor force participation, and their ability to provide child welfare.

Figure 1: A Gendered Conceptual Framework of the Determinants of Nutrition Outcomes



Source: Adapted from UNICEF (1998).

In terms of underlying factors, women's control of income is a key promoter of household food security and nutrition. Women are more likely than men to spend extra income on nutrition inputs such as food. Women with more control over resources are also in a better position to provide care to children. Care is the provision in the household and the community of time, attention, and support to meet the physical, mental, and social needs of the growing child and other household members (ICN 1992). Care is manifest in six types of activities practiced by caregivers (typically women): (i) care for women, such as providing appropriate rest time or increased food intake during pregnancy; (ii) breastfeeding and feeding of young children; (iii) psychosocial stimulation of children and support for their development; (iv) food preparation and food storage practices; (v) hygiene practices; and (vi) care for children during illness, including diagnosis of illness, seeking care, and home treatment (Engle, Menon, and Haddad, 1999). Poor water/sanitation and health services represent the last set of underlying factors. In the event of an income or health shock, do women and men reduce their care time to girls more than to boys? Will they require girls to miss school more often than boys by using girls' labor as a complement to their own? When children get ill, do boys receive treatment before girls do? Do boys receive higher quality health care than girls?

As we will see, the evidence suggests that women with higher status in terms of decision making ability will be better able to generate and direct resources such as food, care, clean water, and preventive and curative health care to young children and, possibly, to redress any gender disparities. The papers by Engle (1999) on care and Bouis and Hunt (1999) on food security, appearing elsewhere in this journal, reinforce this conclusion.

In terms of immediate factors, what is the evidence on intrahousehold food allocation? Are boys favored in terms of quantity or quality? Are there boy-girl differences in the prevalence, incidence, and severity of specific illnesses? The net effect of differences and asymmetries in the basic, underlying, and immediate causes of child survival and nutrition are manifest in nutrition outcomes. Are there differences in boy-girl nutrition outcomes measured by anthropometric indicators? Finally, differences in nutrition outcomes for young children will have implications for their cognitive development and for their labor capacity and productivity as adults, and thus nutritional status feeds back into the stock of potential resources in terms of the quality of human resources.

What is the Status of Women in Selected Asian Countries?

There are many indicators of women's status in the literature. They all rank women in the countries of South Asia low in status compared to other countries in Asia, Africa, and Latin America and the Caribbean. Several of these indices are

presented in Tables 1 and 2. The indices are derived from the UNDP's (1997) *Human Development Report*. The indices and data in these tables indicate that women in Pakistan, India, and Bangladesh have a considerably lower status than those in the Philippines, People's Republic of China (PRC), Sri Lanka, and Viet Nam. Comparable data from Cambodia are not available.

Table 1 shows that the ratio of female to male life expectancy is lowest in India, Pakistan, and Bangladesh. These three countries also have the highest ratio of male to female literacy rates and school enrollment. The percent of income earned by women is also lowest for these three countries. The UNDP's gender-related development index is also by far the worst for these countries. Table 2 presents additional indicators, which again demonstrate the low status of women relative to men in India, Bangladesh, and Pakistan¹ (interestingly Sri Lanka is more similar to the other South Asian countries in terms of the indicators in Table 2 than the indicators in Table 1).

Table 1: UNDP's Gender-related Development Index for Selected Asian Countries

Country	GDI Rank (Out of 146 Countries, 1=best)	Ratio of Female to Male Life Expectancy at Birth	Ratio of Male to Female Adult Literacy Rate (%)	Ratio of	Earned Income Share (%), Female	Human Development Index Rank Minus GDI Rank
				Male to Female Combined Primary, Secondary, Tertiary School Enrollment Rate		
Sri Lanka	70	1.066	1.072	0.956	34.5	7
Philippines	81	1.048	1.009	0.938	30.7	2
PRC	90	1.063	1.264	1.109	38.1	3
Viet Nam	101	1.071	1.065	1.096	42.3	4
India	118	1.005	1.787	1.340	25.7	0
Pakistan	120	1.033	2.103	2.00	20.8	-1
Bangladesh	128	1.004	1.992	1.323	23.1	-5

Notes: Data for Cambodia are not available.

The gender-related development index (GDI) is a gender disaggregated version of the Human Development Index and is based on the relative differences between men and women's life expectancy, educational attainment, labor force share, and relative wages (see Technical Note 2 in UNDP 1998).

Source: Numbers derived from UNDP (1997).

Another indicator of the status of women is individual income level. This kind of information is quite difficult to collect and is typically only done for specific research purposes (although this could change, see below). Nevertheless, it is frequently asserted that 70 percent of the world's poor are women (UNDP 1995, United Nations 1996). This distribution implies that globally there are 900 million poor females and 400 million poor males. This "excess" of 500 million poor females is considered implausible by some (Marcoux 1998). Surprisingly, robust evidence

¹Gillespie, Mason, and Martorell (1996) come to similar conclusions about Pakistan and India.

supporting this distributional assumption is scarce.² Much of the literature on gender and poverty is impressionistic and anecdotal, due in large part to the failure of many surveys to disaggregate and present information by gender (McGuire and Popkin 1990). Moreover, a focus on male-headed and female-headed households has perhaps distracted policymakers from a more general concern about the link between gender and poverty. As a result, two basic questions have not been addressed. First, do women contribute disproportionately to overall poverty? Second, do female-headed households contribute disproportionately to overall poverty? A related question is implied by the answers to these two questions: does a focus on male-headed and female-headed households serve as a good proxy for the poverty suffered by individuals within households?

Table 2: UNDP's Gender-empowerment Index for Selected Asian Countries

Country	GEM Rank (out of 94 countries, 1=best)	Seats Held in Parliament (% women)	Administrators and Managers (% women)	Professional and Technical Workers (% women)
Sri Lanka	70	5.3	16.9	24.5
Philippines	35	11.5	33.7	62.7
PRC	28	21	11.6	45.1
India	86	7.3	2.3	20.5
Pakistan	92	3.4	3.4	20.1
Bangladesh	76	9.1	5.1	23.1

Notes: Data for Cambodia and Viet Nam are not available.

The gender empowerment measure (GEM) is based on the percentage shares of male and female participation in administrative and managerial positions, professional and technical jobs and their share of parliamentary seats (see Technical Note 3 in UNDP 1998).

Source: UNDP (1997).

A recent study by Quisumbing, Haddad, and Pena (1999) examining survey data from ten developing countries (Bangladesh is the only study country in their sample of surveys) concludes that there is weak evidence that females, as well as households headed by females, are mildly overrepresented among the poor, but nowhere near the 70:30 ratio that is often quoted. While female-headed households are worse off in terms of a number of poverty measures, these differences are statistically significant in about a fifth to one half of the data sets, depending on the poverty measure used. Poverty measures are also higher for females than males, with the differences being significant in a smaller proportion of the data sets (about a fifth to a third). In only two of ten datasets were gender differences strong: Bangladesh and Ghana.

²Visaria (1980a, b) are exceptions.

Given that their analysis did not control for other individual and household characteristics, these results should not be taken to argue that policy interventions should not be targeted by gender. Even if there are no strong income poverty differences between men and women, in many countries women have lower levels of education, assets, and social indicators than men—inequalities which, in many societies, are directly or indirectly caused by gender relations. It is therefore quite remarkable that poverty differences are not large, despite the massive discrimination against women in terms of access to and control of resources.

The status of women may be low in the South Asian countries, but is it catching up to the other countries? As Table 3 indicates, there is some tendency towards convergence in the data, but the gap is still large. The data in Table 3 are taken from various sources, including several *World Development Reports* (World Bank 1992-1996). Note the relatively low levels of female to male life expectancy in India, Pakistan, and Bangladesh compared to the other countries, but also note the improvements in the ratio in India and Pakistan between 1982 and 1991. Also, note the differences between female and male literacy rates. Such differences are much smaller in Sri Lanka, Philippines, and Viet Nam than in the other countries, albeit still in favor of men. In the four countries where women fare worst—Bangladesh, PRC, India, and Pakistan—the gender difference reduces somewhat between 1980 and 1995. In Pakistan and Bangladesh in 1995, however, the proportion of women who were literate was still only half that of men.

Consequences of the Low Status of Women

The low status of women has many consequences for child health. The low status of women lowers their influence on resource allocation and decision making within the household. They are less able to influence decisions on desired family size, health care-seeking behavior for children, the amounts and types of food fed to children, and the amount of time to spend on child-rearing. Moreover, the discrimination the women faced as girls affects the nutrition status of their children through their own smaller size as adults. Small women have a greater risk of having low birth weight children and—some would argue—of obstetric complications due to smaller pelvic size. The intergenerational patterns are particularly strong for girls. The low status of women leads to an undervaluation of their time and to underinvestment in their education. This in turn leads to wide gender differentials in wage rates for the same activity. There is strong evidence from India that this adult wage male-female differential is partly responsible for the relative underinvestment in girls (Rosenzweig and Schultz 1982). Girl's education is described by Ramalingaswami et al. (1997, 16) as the “key of keys” to reducing gender inequalities. They conclude that these inequalities are particularly important for child nutrition: “the exceptionally high

rates of malnutrition in South Asia are rooted deep in the soil of inequality between men and women”.

Table 3: Trends in Some Indicators of Women's Status in Selected Asian Countries, 1975-1995

	Bangladesh	PRC	India	Pakistan	Philippines	Sri Lanka	Viet Nam
Real GDP (constant dollars, base year 1985)							
1980	1,085	972	882	1,110	1,879	1,635	...
1988	1,298	1,326	1,204	1,371	1,676	2,028	...
1991	1,474	1,378	1,251	1,394	1,699	2,186	...
Ratio of Female to Male Life Expectancy (%)							
1982	102	106	98	96	106	106	106
1991	100	106	100	100	106	107	--
Female Illiteracy (%)							
1985	78	45	71	81	15	17	...
1990	78	38	66	79	11	17	16
1995	74	27	62	76	6	13	9
Ratio of Female to Male Literacy (%)							
1980	41	67	45	39	98	88	87
1995	53	81	58	48	99	94	94
Female Share of Labor Force (%)							
1980	43	44	34	23	35	27	48
1992	7	43	25	12	31	27	47
1994	42	46	32	...	36	35	50

Note: Data from Cambodia are not available.

... means not available.

Sources:

Real GDP per capita for 1980, 1988, 1991 from the Penn World Tables (1999).

Female life expectancy from the World Bank's *World Development Report*: 1984 (for 1982), 1990 (for 1988), and 1993 (for 1991).

Female illiteracy from the World Bank's *World Development Report*: 1990 (for 1985), 1995 (for 1990), 1996 (for 1995).

Female and male literacy from UNICEF's *State of the World's Children* (1998).

Female share of the labor force from the World Bank's *World Development Report*: 1996 (for 1980), 1994 (for 1992), and 1996 (for 1994).

All others from Mirko (1997).

Poverty

A number of studies of the determinants of poverty have shown women's education to be the strongest determinant of poverty reduction. Simulations from comparable studies using nationally representative samples from Egypt (1997) and Mozambique (1996) have shown that mothers' education is crucial to poverty reduction (Datt et al. 1999, Datt and Jolliffe 1998). For example, from Egypt, Datt and Jolliffe (1998) find that increasing mothers' schooling from "none" or "less than primary" to "completed primary schooling" reduces the proportion of the population below the poverty line by 33.7 percent. Similarly in Mozambique, Datt et al. (1999) find that increasing the number of adult females in the household that have completed primary school by one leads to a 23.2 percent decrease in the proportion of the population living below the poverty line. In both of these country studies, female education had a much larger impact on poverty than other factors, including male education. The country case studies, and the India case in particular, also maintain that improved education for girls and an improved vocational education for adolescent girls are top priorities in terms of actions for nutrition improvement.

But it is not just women's human capital that appears to be important in preventing poverty. A study of social capital by Cross (1999) in KwaZulu-Natal Province, South Africa, identifies two types of networks that are important for household welfare: bound and achieved. Bound networks consist of close relatives, and are primarily cultivated by women. Achieved networks are networks that are developed more at the discretion of the individual, and these tend to be cultivated more by men. The study indicates that male networks tend to be more important for moving the household out of poverty, and female networks are more important in preventing the household from falling further into poverty in the aftermath of a negative shock. Whatever can be done to promote women's status will further enhance their ability to develop these networks of social capital—networks that, it has been argued, contribute very significantly to overall household income (Narayan and Pritchett 1997, Knack and Keefer 1997).

Child Nutrition

Multivariate evidence at the cross-country level that links women's status and child undernutrition is growing. In a recent paper, Osmani (1997) attempts to use cross-sectional data to explain the very high rates of child undernutrition in South Asia. Osmani notes that the dummy variable for South Asia is very significant in the regression explaining child underweight. When he adds low birth weight prevalence to the equation, both it and the South Asian dummy become insignificant. When he replaces the South Asian dummy with the birth weight variable, the latter is significant, but does not lift the R-squared much above the model with just the South Asia

dummy. Osmani (1997, 18) thus concludes that “the exceptionally high incidence of low birth weight is what lies behind the exceptionally high rate of child undernutrition in south Asia”. This conclusion is a reasonable one, but there may be other reasonable conclusions too: perhaps there are other variables strongly affecting child undernutrition and having very different values in South Asia that cannot, as yet, be measured, such as levels of care, weak immune response due to heavy bacterial loads exacerbated by overcrowding, etc. Osmani suggests that if low birth weight is the missing link in explaining the differences in underweight prevalence between south Asia and the rest of the developing world, then it has a lot to do with maternal mortality and morbidity and, hence, women’s status. He concludes by stating, “[P]erhaps there is something in South Asian culture an aspect of its culture that bears on the treatment of women, especially in their reproductive age that is not fully captured by our existing explanatory frameworks. If we want to know more about our nutrition and what to do about it, we must learn more about our women and their deprivation” (Osmani 1997, 21).

Frongillo et al. (1997) also use cross-country data in an attempt to explain stunting and wasting of young children. They find that an increased female literacy rate is associated with a decline in stunting (but not wasting). From a program point of view, this suggests that improvements in girl’s education will have an impact on their own infants’ chronic nutritional status, but will not be important in ameliorating short-term fluctuations in infant nutrition status.

Smith and Haddad (1998) strengthen this line of work in several ways. First, they pool cross-section and time series data, which means that they only use countries for which there is more than one observation in time. This allows for country-specific factors that affect nutrition status, but for which no data exist, to be accounted for. Second, they use a wider set of explanatory variables, covering both the underlying and the basic causes of undernutrition; and, third, they utilize a wide range of econometric models and diagnostic tests to examine the robustness of the results. They find that improvement in women’s status relative to men has a large positive impact on child nutrition status. At the global level, reductions in child underweight (low weight for age) can be attributed to increases in food availability (26.10%), improvements in the health environment (proxied by access to clean water) (19.27%), improvements in women’s status (proxied by the ratio of female to male life expectancy) (11.61%), and improvement’s in women’s education secondary enrollments (43.01%). Taken together, women’s relative status and women’s education account for over half of the reductions in child underweight in the 1970-1995 period.

A number of recent meta-studies in the nutrition literature have tried to shed more light on the biological mechanisms between women’s status and child malnutrition. In particular, they focus on intrauterine growth retardation and low birth weight. Bangladesh (50%), India (28%), and Pakistan (25%) have higher rates of low

birth weight than other countries in the region: PRC (6%), Cambodia (18.4%), Philippines (11%), Sri Lanka (18.7%), and Viet Nam (10.8%). The rates for intrauterine growth follow a similar pattern (de Onis, Villar, and Gulmezoglu 1998).

Perpetuation of Discrimination against Female Infants and Children

The recent increase in the number of Demographic and Health Surveys (DHS) produced by Macro International with USAID support has provided the international research community with a tremendous source of information on health outcomes and inputs. Much of the evidence in this section draws on those surveys.

Preferences for Male Children

A recent paper by Arnold (1997) uses the DHS data to confirm the preference for boys in Bangladesh, Pakistan, and India relative to the other study countries and to countries in other regions. The preferences reveal themselves most clearly in Table 4 for households with three living sons and no daughters as compared to those with three living daughters and no living sons. When comparing the percentage of women who would like an extra child in each of these types of households, we find that the three-daughter households have a much stronger preference for another child as compared to the three-son households. In Bangladesh, the ratio is 48:20, or 2.4. For India and Pakistan, the ratios are 4.54 and 2.4, respectively. For the Philippines and Sri Lanka (there are no comparable data for PRC and Viet Nam), the ratios are 0.8 and 1.125, respectively. Arnold (1997) concludes that “a strong preference for sons is exhibited by parents in all of the countries of South Asia and in the Near East and North Africa.”

Male-female Mortality Differentials

Using the same DHS data source, Hill and Upchurch (1995) seek to answer the question: is there a mortality disadvantage among girls in the developing world? As Table 5 indicates, they calculate an “index of female mortality disadvantage”, which is simply the difference between the observed ratio of female to male mortality from the DHS data and the expected ratio derived for each country using historical data from Europe. This differencing is done to take into account genetic factors that lead to lower female mortality rates at all ages. Without the differencing, the authors argue, differences in female and male mortality rates due to behavioral factors are obscured. For the two study countries for which the data are available, Pakistan shows higher than expected differences in female to male mortality, while Sri Lanka shows actual differentials that are close to expected differentials.

Table 4: Percentage of Currently Married, Nonpregnant Women Aged 15-49 Who Want Another Child, by Number and Sex Composition of Living Children

Country	Number and Sex of Living Children									
	One Child			Two Children			Three Children			
	No Children	One Daughter	One Son	Two Daughters	One Daughter, One Son	Two Sons	Three Daughters	Two Daughters, One Son	One Daughter, Two Sons	Three Sons
	Bangladesh (1993-94)	94	88	88	65	25	39	48	15	8
India (1992-93)	85	79	74	57	27	22	50	19	6	11
Pakistan (1990-91)	89	85	81	77	60	61	79	56	28	33
Philippines (1993)	84	74	79	44	34	46	24	12	12	30
Sri Lanka (1987)	94	80	80	47	26	36	18	11	6	16

Source: Arnold (1997).

Table 5: Indexes of Female Mortality Disadvantage and Other DHS Indicators by Country

Country	Index of Female Mortality Disadvantage			Female percent - Male percent						
	Infant	Young	Under-5	Immunized	Stunted	Wasted	Diarrhea	With Acute Respiratory Infection	Treated for Diarrhea	Treated for Acute Respiratory Infection
Pakistan	.037	.751	.142	7.8	-2.1	-2.0	-0.9	0.4	-10.2	2.3
Sri Lanka	-.153	.139	-.095	...	2.4	1.1	-1.1	...	6.7	...

Note: The index of female mortality disadvantage is the difference between the observed ratio of female-to-male mortality and the expected ratios that take into account the genetic advantages that females have in terms of lower mortality rates.

... means not available.

Source: Hill and Upchurch (1995).

Differentials in Boy-girl Anthropometry

Table 6 presents differences in boy-girl anthropometry for the study countries from WHO's Global database (WHO 1997). Few differences emerge. Why is this the case when differences are noted in the inputs to nutrition? A number of hypotheses exist for this lack of difference. First, any excess girl mortality will remove female infants from appearing in the anthropometry data. Second, because female births are less of an "event" in societies where there is discrimination against females, there may be an inaccurate reporting of female infant ages. If this is the case, and if female ages are underreported, this would make female infants appear better nourished according to height for age and weight for age indicators than is in fact the case. Third, the reference standards themselves may not be gender-neutral. It will be informative to do some comparative boy-girl anthropometry comparisons using the same data, but with the existing NCHS standards and the new ones that are currently under construction (Garza and de Onis 1999). More work needs to be undertaken to explain why the difference in inputs does not more fully manifest itself in anthropometric outcomes.

Table 6: Boy-Girl Prevalence of Stunting and Underweight for Countries in the Region

Country	Comments	% Boys < -2SD ZHA (stunting)	% Girls < - 2SD ZHA (stunting)	% Boys < -2SD ZWA (underweight)	% Girls < - 2SD ZWA (underweight)
Bangladesh	0-4.99 years, 1996-7, national	54.2	55.0	54.6	58.0
Cambodia	no sex disaggregated data available in WHO (1997)				
PRC	0-4.99 years, 1992, national	32.0	30.7	16.7	18.1
India	0-3.99 years, 1992-3, national	52.3	51.7	53.3	53.4
Pakistan	0-4.99 years, 1990-1, national	50.4	48.7		
		40.6	39.8		
Philippines	0-4.99 years, 1993, national	33.9	31.3	30.5	28.6
Sri Lanka	0.25-4.99 years, 1993, national	22.7	25.1	34.8	40.9
Viet Nam	0-4.99 years, 1994, national	46.9	46.8	43.8	46.0

Differential Investment in Girls and Boys

Can these differences in female and male mortality be explained by differences in morbidity rates, differences in child care behaviors (for example, immunization rates and treatment for diarrhea and acute respiratory infection), differences in education, or differences in food allocation?

Nonfood Resource Allocation

Arnold (1992) and Hill and Upchurch (1995) do not find strong associations between excess female mortality and male-female differences in morbidity or treatment for illness. As Table 5 indicates for Pakistan, a higher percentage of girls are immunized and they are less likely to be stunted or wasted or have diarrhea (although the significance or otherwise of the differences is not reported). One striking difference is in the treatment of diarrhea. The percent of boys who have diarrhea and receive treatment is 10.2 percentage points higher than the treatment rate for girls with diarrhea.

Filmer et al. (1997) also utilize the DHS data sets to explore similar issues as Arnold (1992, 1997) and Hill and Upchurch (1995). In addition to the DHS data, they utilize the National Family Health Surveys (NFHS) carried out in 26 Indian states in 1992-1993 with a similar format to the DHS surveys. In addition, Filmer et al. (1997) disaggregate the national Pakistan DHS data down to the four Province levels, supplementing the DHS data for Baluchistan with additional information (see their Appendix 1 for details).

The disaggregation proves to be very revealing. Whereas the Hill and Upchurch analysis did not reveal a large difference in the female and male treatment for acute respiratory infection (ARI), the Filmer et al. analysis does (although the comparison is not exact, since Filmer et al. combine ARI and fever in terms of treatment rates), at least for Baluchistan and Northwest Frontier (NWFP) Provinces (as indicated in Table 7).

Filmer et al. (1997) also extend the DHS data analysis of factors contributing to excess mortality into the area of school enrollment. As Table 8 shows, the ratios of female to male enrollment rates are particularly low in India overall (and very low in some of the northern States) and in Pakistan.

Food Allocation

Food intake is a crucial input for child development. The interaction of an inadequate diet with infection is the principal cause of undernutrition. One of the most comprehensive reviews of studies of gender and age differences in food allocation was completed by Haddad et al. (1996). The accurate measurement of a child's representative food intake is a much tougher proposition than the assessment of immunization status, treatment for diarrhea or ARI, measures of stunting and wasting, or school enrollment (Haddad et al. 1996). Sorting the studies into those that have taken activity patterns and body weight into account and those that have not (this is particularly important for adults), the results of the review are summarized in Table 9.

**Table 7: Ratio of Girls to Boys who Received No Treatment
for Episodes of Fever or Acute Respiratory Infection**

	N	Median	Standard Deviation	Highest Range	Lowest Range		
Non-South Asian countries	34	1.02	.29	Columbia (1990) Togo (1988) Ondo State (1986)	2.04 1.58 1.44	Paraguay (1990) Northeast Brazil (1991) Ghana (1988)	.57 .66 .71
Pakistan	4	1.28	.55	Baluchistan NWFP Punjab	2.01 1.38 1.18	Sindh	.68
South Asia	3	1.19	.11	India (1992) Bangladesh (1993)	1.27 1.19	Pakistan (1990)	1.05

Note: A higher ratio indicates that girls are LESS likely to get treatment than boys.

NWFP = Northwest Frontier Province

Source: Filmer, King, and Pritchett (1997).

Table 8: Ratio of Female to Male School Enrollment, Children Aged 11-14

	N	Median	Standard Deviation	Highest Range	Lowest Range		
Non-South Asian countries	36	.91	.19	Zambia (1992) NE Brazil (1991) Dom. Rep. (1991)	1.09 1.09 1.05	Jordan (1990) Yemen (1991) Niger (1992)	.33 .37 .50
India	25	.86	.14	Nagaland Kerala Delhi	1.01 1.00 1.00	Rajasthan Bihar Uttar Pradesh	.49 .55 .60
Pakistan	4	.52	.19	Punjab Sindh NWFP	.69 .66 .37	Baluchistan	.34
South Asia	3	.73	.16	Bangladesh (1993) Pakistan (1990)	.93 .64	India (1992)	.72

Note: A higher ratio indicates that females are more likely to be enrolled than are males.

NWFP = Northwest Frontier Province

Source: Filmer, King, and Pritchett (1997).

From Table 9, we can see that for the 35 male-female comparisons from South Asia with no adjustment for activity and body weight, 11 are in favor of males, 5 are in favor of females, and 19 favor neither sex. The corresponding South Asia figures for the studies that do make these adjustments are 5, 1, and 16, respectively. Of the two adult-preschooler comparisons in the no-adjustment category, one is pro-adult, and one favors neither age group. The two adult-preschooler comparisons in the adjusted calories category show one pro-adult result and one pro-child result.

Table 9: Totaling the Bias Reported by Specific Studies on Food Distribution within the Household (number of cases favored)

Comparisons when Energy Requirements NOT Adjusted for Activity and Body Weight					
Region	Preschoolers: Male versus Female	Children: Male versus Female	Adolescents: Male versus Female	Adults: Male versus Female	Adults versus Children/ Preschoolers
South Asia	males: 7 females: 1 neither: 6	males: 2 females: 1 neither: 5	males: 0 females: 1 neither: 5	males: 2 females: 2 neither: 3	adults: 1 preschoolers: 0 neither: 1
Southeast Asia	males: 2 females: 0 neither: 2	males: 1 females: 0 neither: 2	males: 1 females: 0 neither: 2	males: 4 females: 0 neither: 2	adults: 4 preschoolers: 2 neither: 0
Comparisons when Energy Requirements ARE Adjusted for Activity and Body Weight					
South Asia	males: 2 females: 0 neither: 4	males: 1 females: 0 neither: 5	males: 0 females: 0 neither: 4	males: 2 females: 1 neither: 3	adults: 1 preschoolers: 0 children: 1 neither: 0
Southeast Asia	males: 0 females: 0 neither: 1	males: 0 females: 0 neither: 1	males: 0 females: 0 neither: 1	males: 0 females: 0 neither: 1	adults: 0 preschoolers: 0 children: 1 neither: 1

Source: Haddad et al. (1996).

For Southeast Asia, all the intrahousehold studies in the region are from the Philippines. In the unadjusted category, of the 16 male-female comparisons, 8 are in favor of males, none are in favor of females, and 8 are in favor of neither sex. The corresponding figures for the studies that adjust for food requirements are 0, 0, and 4, respectively. Of the six adult-preschooler comparisons in the no-adjustment category, four are pro-adult and two are pro-preschooler. Of the two adult-child/preschooler comparisons in the adjusted category, one is pro-child/preschooler, while the other shows no favoritism by age.

The adjustment barely affects the pattern of results in South Asia, but it does seem to reduce the number of sex differences found in the Southeast Asia group. Like Filmer et al. (1997), the results differ widely within region and within country.

For instance, Miller (1981) notes the differences between north (pro-male) and south (no sex preference) India. She also notes difference in food discrimination by family composition, echoing the results from Arnold on stated preferences for family size. Again, Miller's (1981) study notes that the first born child is usually treated well, irrespective of its sex. It is later-born girls that are likely to face discrimination relative to brothers and also relative to older sisters (Ware 1984). Finally, the studies reviewed indicate that boy-girl discrimination in food allocation is not necessarily a feature of the poorest of the poor (see, for example, Cowan and Dhanoa 1983).

Especially direct evidence on the status of women and their child's nutritional well-being is provided by Rao and Bloch (1993). From a survey of 149 households in rural south India, they conclude that there is a statistically negative association between wife-beating and the caloric consumption of the children in the household. "...wife-beating not only reduces the well-being of women but also adversely affects the caloric allocation within the family to children whose mothers are being beaten" (Rao and Bloch 1993, 25).

In summary, the evidence on food distribution within the household suggests that while there is some pro-male and pro-adult bias in terms of the quantity of food intake, it seems to be strongest in South Asia, with considerable variation within that region. These conclusions do not differ very much from Lipton's in 1983 (Lipton 1983).

Determinants of the Low Status of Women

What are some of the factors that shape discrimination against women within the household and community? The literature tends to fall into two broad sets of factors: economic and sociocultural, although there is a great deal of interaction and overlap between them .

First, the economic factors. Using the DHS and NFHS data, Filmer et al. (1997) explore the relationship between per capita income and gender disparity in terms of child mortality, school enrollments (between the ages of 11 and 14), and whether treatment was given for fever or ARI. They find no relationship between per capita income and any of the three measures of gender disparity in either their South Asian or non-South Asian groups. From a review of Indian case studies, Miller (1992, 9) comes to similar conclusions for India: "daughter discrimination does not most characterize the poor, anywhere in India. If anything, greater disparities and malnutrition (and perhaps malnutrition-caused mortalities) are found among propertied groups, and among the more educated".

It is gender differences in adults' access to economic resources that seem more relevant as an explanation of gender discrimination at the child level, which, in turn, reinforces gender discrimination at the adult level. In an important study,

Rosenzweig and Schultz (1982, 809) find that for India, "...a rise in the expected adult male employment rate exacerbates the survival differential in favor of boys, other things equal...". They conclude that the differential in expected earnings that males deliver is an important determinant of differential child survival. It is not only the labor market that reinforces discrimination against young females, there is much evidence that dowry does too. Miller (1992) stresses that daughters put additional financial stress on families as a result of marriage and dowry costs. Indeed, Basu (1997) finds that dowry is, in effect, "negative collateral." Lenders are able to charge differential rates of interest to families with a preponderance of girls, holding all other factors constant, this is an indication that they are considered a credit risk.

Other economic factors identified by Miller as a possible basis for discrimination against girls in South Asia include low demand for female labor in subsistence agriculture, underestimation by census takers of the value of female nonmarket activities (inside and outside the household), and females being thought to be less likely to be able to provide for parents in old age.

Sociocultural factors include the inability of females to carry on the lineage; the perceived inability of females to physically protect their families in areas of endemic violence and in local power struggles (Oldenburg 1992); the value of children for religious rituals and as comfort and companionship (thus raising the opportunity cost for women who seek to work away from home); the inability of women to return to their natal homes; prohibitions on women working outside the home; for urban women, nonenforcement of laws concerning alimony and child support; restrictions on female ownership/control of land and/or assets; poor access for women to communal resources (such as the village commons and other so-called common property resources); poor access to external social support systems (such as natal family); and poor access to external economic support (such as government programs, extension, credit clubs). These factors are described further in Haddad et al. (1996).

In a 1997 postscript to her 1981 book on the endangered sex, Miller (1997) analyzes data that have emerged in the last 15 years. She concludes that "evidence through the 1980s and into the 1990s, scattered and spotty though it is, together provides a picture of continued health and survival disadvantages to girls in the Northwest and indications of both regional and social spread of son preference and lethal discrimination against daughters" (Miller 1997, 208).

The persistence of such discrimination is not inevitable. There is now a fairly large set of evidence that demonstrates that the provision of equal opportunities for women in economic activities can lead to a net increase in economic gains for all household members, and, in particular, can lead to more resources directed to children. Some of the clearest evidence on the loss of economic productivity due to gender asymmetries in access to resources is found in the agriculture literature. Bamberger et al. (1994) state that the potential gains could add significantly to overall agricultural productivity in many regions, and could improve the viability of

countless agricultural project investments. Also, Tibaijuka (1994) claims that, for a sample of Tanzanian farmers, a liberalization of sex roles would increase the overall productivity of labor and capital for all farmers by 15 percent and 44 percent, respectively. More studies are needed to test the hypothesis that women's productivity growth potential is less than men's, because the current evidence tends to address the relative productivity of women and men, but not for the same crops and technology (although for exceptions, see Quisumbing 1996).

If there are gains to all household members from reducing gender asymmetries, the greatest gains are likely to accrue to children and women (Haddad et al. 1997). In particular, there is now some empirical regularity in the result that marginal income under women's control tends to result in increased food consumption of children and better child nutrition, although Schultz (1999) encourages caution in terms of overselling this result. Examples of specific studies include Thomas (1990, 1992) and Hoddinott and Haddad (1995). Thomas (1990, 1992) finds that increased (nonlabor) income held by women leads to a greater share of the household budget devoted to expenditures on human capital and a higher level of nutrient intake. Hoddinott and Haddad (1995) use traditional cropping patterns in Cote d'Ivoire to identify income sources and also reject income pooling. A higher share of cash income to wives in Côte d'Ivoire leads to higher expenditures on food and lower expenditures on alcohol and cigarettes.

Whether improving women's control of resources leads to a greater say in other areas of decision making such as fertility and human capital is a less well studied issue. Studies are beginning to make inroads as to the second-round effects of improving women's control of resources, with qualitative studies ahead of the quantitative (Kabeer 1998).

Policies and Programs to Improve Women's Status

The previous section suggests that economic growth in the absence of policies to reduce gender asymmetries will not improve women's status relative to men in the short to medium term. Rather, policies need to be put in place to redress their relative status. These policies are important for the long-term battle for greater equality of rights. It is difficult, however, to argue that these policies are either necessary or sufficient for gender-sensitive projects to work. As the section below will indicate, the existence of these policies certainly helps projects to improve women's status, but does not guarantee they will. Similarly, we argue that the absence of these policies does not preclude effective project initiatives for improving women's status.

Designing a Policy Environment to Improve the Status of Women

Monitoring the Enabling Environment

The effective monitoring of the levels and changes in the enabling environment is likely to be a powerful force for reforming the enabling environment. This kind of monitoring and consciousness-raising is important because there is often a tacit assumption that policymakers are able to abstract themselves from societal biases. Public policy in most countries, but especially in the developing world, tends to reinforce intrahousehold and intrafamily inequality (Folbre 1995).

Human Rights Monitoring

Monitoring the gender dimensions of human rights may well be a promising first step on the road to describing the environment in which nutrition and food projects must operate. Food insecurity and malnutrition have increasingly come under the human rights lens in the past decade (Oshaug et al. 1994, Jonsson 1995, Food Policy 1996). Food as a human right was laid down in the Universal Declaration of Human Rights of 1948, and further specified in the International Covenant on Economic, Social and Cultural Rights of 1966. Approximately 200 additional UN instruments address the right to adequate food and nutrition within civil-political, economic-social-cultural, development, and indigenous rights constructs. Commitments made by the UN member nations at the World Food Summit of 1996 that recognized the realization of human rights as an important way of achieving food security further signaled improved international openness to the human rights perspective (World Alliance for Nutrition and Human Rights 1998).

Inherent in the promotion of human rights is a promotion of gender equity in access to information, in the ability to participate in governance processes, in the access to government benefits, and in the right to hold access to property. Organizations such as Freedom House that collect and publicize human rights information need to disaggregate their data collection efforts and publicize intergender differences in the upholding of human rights by governments and NGOs.

Gender-based Budget Allocations

Another way of monitoring the enabling environment is to track the different implications of public budgetary allocations for men and women. Budlender (1997) describes the Women's Budget Initiative (WBI)—an ambitious and seemingly successful attempt to do just that in South Africa. The WBI is a collaboration between the parliamentary Joint Standing Committee on Finance and several South African NGOs, and was launched in the mid-1990s. Examples include education (if

much of the education budget goes to tertiary education, does this short-change women because they are underrepresented at this level?), service provision (if services are available only at certain outlets, what are the implications for women who tend to have less access to transport than men?), public sector employment (will affirmative action be extended to women?), childcare provision (will government services target women who spend the highest amount of time in these activities?), and employment benefits (what happens to informal sector employers—mostly women—when they become unemployed or ill?). The WBI has also gained commitments from the Minister of Finance to disaggregate state expenditure by gender although, to date, this has not occurred.

Changes in the Enabling Environment

Folbre's (1995) review of the literature on the United States, Northwest Europe, Latin America and the Caribbean, and Sub-Saharan Africa reveals distinct patterns of gender bias in public policy, particularly in the area of child support and social entitlements, such as pensions. She underlines the importance of the influence of law, social legislation, and cultural norms on the distribution of income and other resources among family. She notes that maternity benefits and child care costs are often stipulated by public regulation to be the responsibility of the employer, despite the International Labour Organization's (ILO) Maternity Prevention Convention. Folbre's research shows that some employers are therefore discouraged from hiring women and some require a certificate that they are not pregnant. Second, she cites research that demonstrates the bias against women in formal employment in relation to benefits such as social security. Women are less likely to be employed in jobs with benefits (full time, formal sector). When they are, they pay the same taxes as men, but the receipt of survivor benefits for widows of employed men is much easier to obtain than benefits for widowers of employed women. Retirement benefits are lower for women. Family allowances give benefits to employed men with dependent wives, but not benefits to employed women with dependent children. Moreover, sex discrimination laws, if they exist, may be enforced in the public sector, but typically they are not in the private sector (Folbre 1995).

Some of the legislation that is discussed above may seem far removed from nutrition programs. If these laws were to change, what would be the effect on women and their children? Unfortunately we get few chances to assess such changes in a rigorous way. One of these glimpses is afforded in a paper by Hoddinott and Adam (1998), which capitalizes on a change in state law regarding the dispensation of income and assets upon divorce. The law change improved the likelihood of women receiving a larger share of such resources. Using female suicide rates as the welfare outcome, the study found a significant drop in female suicide rates immediately after the change, holding all other factors constant. Female suicide is the tip of the iceberg

that is poor mental health. We know that a mother's state of mental health is a crucial resource for care provision to infants. Similar work has been undertaken regarding a welfare program in the United Kingdom, called Child Benefit. Work by Lundberg et al. (1997) and Ward-Batts (1996) use data from the United Kingdom for two periods (1973-1976 and 1980-1982) and attempts to assess the impact of a policy shift in UK child benefit allocation on the budget shares of 23 goods. The legislative change in the late 1970s resulted in income transfers being directed specifically to women in the form of cash, as opposed to a deduction from the household's income tax. The Ward-Batts study found that the legislative change had a strong negative impact on household budget shares to tobacco, housing, and men's clothing, and a strong positive impact on children's clothing, fuel, and food purchased for home consumption. Lundberg et al. (1997) find similar results in that expenditures on women's and children's clothing increased relative to men's clothing expenditures.

In the developing world, South Africa is again at the cutting edge with new proposals for its Child Maintenance Grant. In addition to the introduction of means testing for the grant, the transfer of the grant no longer has to be to the parent—now it can go to whomever the household nominates as the child's primary caregiver. The relaxation of the definition of primary caregiver is important in South Africa given the large number of infants for whom one or both parents are absent from the household (Maluccio et al. 1999). The proposed reform is intended to be a child-friendly change in policy—the child should not be deprived of resources if the parent is not coresident—but the policy change may well provide unexpected incentives to parents of young infants to seek work away from their infant.

Women, Work, and Child Care

The country case studies all highlight the tradeoffs women face in working and caring for children, and all propose solutions based around child care. The Sri Lanka case study notes that “the Sri Lankan social ideology based on Buddhist values has been less discriminatory of women than many other south Asian societies.” The importance of the educational attainment of women is cited, although there are fairly low rates of female participation in the labor force. Women in poor households are more likely to be paid in the labor force, however, and the implications for child care and breastfeeding are discussed. The attempts of some income initiatives targeted to women (on the premise that more of the extra income would go to child welfare enhancing activities) have foundered due to women's lack of time and knowledge, which, in turn, hinders their ability to seize income-generating opportunities. There are still legal reforms to undertake, the report informs us, for example, the Sri Lankan Women's Charter has still to attain legal validity.

The Bangladesh case study notes that “traditionally women are subordinate to men and deprived socially and economically.” It is noted that NGOs channel more

resources to women in rural areas than the State does. The report challenges the State by citing the policy gaps in the areas of maternal leave for pregnant mothers, crèche facilities at workplaces, the treatment of pregnant women in hospitals, information and education campaigns to support women and the rights of women, which must be protected in the area of pregnancy choice, and access to resources for taking care of their children.

The Viet Nam case study emphasizes that “by far the biggest vacuum in policy terms exists in the area of caring practices for women and children.” The report acknowledges that the situation of women in Viet Nam is better than in some other Asian countries, but that there is also room for improvement. Women explicitly emerge in the supporting policies under the credit program section. Concerns are aired about the ability of these programs to reach women and children, about the impact of credit on income, consumption, and nutrition, especially given tradeoffs in the areas of child care and time in income-generating activities. The Viet Nam case study also discusses the existence and enforcement of various laws that affect the status of women. The report concludes that the laws are satisfactory as far as they go, but they are mostly applied in the formal employment sector, they do not always cover certain groups of women (e.g., the elderly), and they are not always well enforced. The improved nutrition strategy emphasizes the expansion of focus beyond under-5s to include adolescent girls, young women, and mothers (vitamin A supplementation and iron deficiency anemia prevention). The strategy also includes proposals to provide access to home-based day care for working mothers with under-3s.

The PRC case study notes that, in areas where women are involved in labor-intensive work, lack of child care facilities is thought to be an especially important constraint on improving child nutrition. To address these concerns, the report suggests the formation of day care centers in rural areas during harvest time, with the provision of a supplementary meal to the mother and the production of local and, hence, affordable weaning foods.

Changes to Food and Nutrition Policies and Programs

The policies described in the previous sections are not explicitly geared towards food security and child nutrition. Are there examples of such policies that are designed to improve women’s status relative to men?

In Mexico, a large new program called PROGRESA, aimed at fighting “extreme poverty” in Mexico’s rural areas, began operation in August 1997. This multisectoral program provides an integrated package of health, nutrition, and educational services to poor families. Originally serving 400,000 families (Gomez de Leon et al. 1997), it aimed to expand its coverage to approximately 1-1.5 million families by the end of 1998, with an approximate budget of 500 million dollars. PROGRESA is one of the Mexican government’s primary weapons against poverty.

The program aims to provide a series of interventions, including monetary assistance, nutritional supplements, educational grants, and a basic health package, to its beneficiaries for at least three consecutive years. One of the innovative aspects of the program is its attempt to transfer the monetary assistance to women. The literature on the differential impacts of male and female income was influential in this aspect of the program's design. It is hoped that if the female receives income, it will empower her ability to make decisions that directly affect child nutrition and household food security. On the other hand, there are concerns that this new source of income may lead to increases in domestic violence. The gender impacts of this large initiative are currently being assessed by an IFPRI team (Quisumbing et al. 1999).

The Food For Education Program (FFE) in Bangladesh is designed to address household food insecurity and low female education. The Bangladesh government launched the FFE program in July 1993 on a large-scale pilot basis, covering about 5,000 primary schools spread all over the country. Most children from the poorest families in Bangladesh do not attend school because they cannot be spared from contributing to their family livelihood. The FFE food ration (wheat) becomes the income entitlement that enables a poor family to release children from household obligations so that they can go to school. IFPRI conducted an assessment of the FFE program based on a survey of primary schools and households in April 1994 (Ahmed 1999).

Ahmed (1999) estimates the cost of delivering 1 taka of income to a household through the following schemes: Rural Rationing (6.55), Food For Work (2.56), and Food For Education (1.59). The FFE certainly seems to be an effective income (food) transfer mechanism. In terms of its education impact, Ahmed found that the FFE did not simply draw students from neighboring non-FFE schools, but it also drew in children from the catchment area that were not currently in school—perhaps building on the nonformal education efforts of several Bangladesh NGOs. The new children were from households that were slightly poorer than currently enrolled FFE recipients. Children who were not enticed into school were from families that were 30 percent poorer than the currently enrolled FFE students. Attendance increased for boys and girls, but increases in attendance were about 10-15 percent higher for girls. The benefits from such a program could be far-reaching in terms of the status of women and desired family size. It would be important to conduct a follow-up study to determine the sustainability of the initial enrollment impacts on girls' education, and whether this did in fact lead to delayed marriage (there is some evidence it did—see Arends-Kuenning and Amin 1998) and permanent improvements in women's status.

A number of NGOs in Bangladesh have attempted to improve women's status and the status of children in their households by directing credit to women. How well have these programs worked? The study by Pitt and Khandker (1998) on the differential impacts of NGO microcredit directed to men and women is particularly illumi-

nating because it is well designed and the data are carefully analyzed. Specifically, they test for the differential impact of male and female borrowing from three NGOs on eight outcomes: boy's and girl's schooling; women's and men's labor supply; total household expenditure; contraception use; fertility; and value of women's non-land assets. They find that "the set of female credit variables is statistically significant in 7 of 8 cases at the 0.05 percent level. By contrast, the set of male credit variables is significant in 3 out of 8 cases" (p. 41). One of the implications of their results is that household consumption increases by 18 taka for every 100 taka lent to a woman and by 11 taka for every 100 taka lent to a man (Morduch 1997).

Kabeer (1998) reviews the conclusions of the econometric studies of credit to women in Bangladesh and compares the results with her own participatory evaluation. She is more interested in the perspective of the women themselves as to whether they feel empowered by the receipt of credit. Despite increased workloads, the loanees clearly felt more self-fulfilled and valued by the other household members and the community. The following quote from a loanee illustrates the point:

Ideas of the mind is everything. If you have money in your hand, you feel joy. If you have no money, you feel pain. My labour has increased, but I don't feel it because the money is also coming in. It doesn't feel like hard work (Kabeer 1998, 31).

It is important to note that food and nutrition programs do not have to set out to improve the status of girls or women in order to do so. Rubalcava and Thomas (1997) use interstate and intertemporal variation in the levels of benefits delivered under the Aid to Families with Dependent Children (AFDC) in the USA to test whether the variation in the generosity of AFDC transfers, controlling for overall household income, affects the share of expenditures on food. As AFDC benefits increase, the assumption is that this improves the bargaining position of women in the household and makes them better able to separate from the household if they are unable to negotiate what they consider a fair share of resources. Rubalcava and Thomas (1997) find that AFDC benefits do affect food expenditure shares.

Several, but not all, of the country case studies suggest ways of making nutrition programs and systems more gender-sensitive. The Pakistan case study identifies a series of gender issues that effectively constrain the Pakistan Health Care System. Suggestions are made to relax these constraints, such as to increase the number of staff with reproductive health care training and to give women an increased voice in the community-based organizations that are involved in overseeing the quality of health care provision. The cultural traditions that encourage female exclusion, or "Purdah", are discussed and identified as an important constraint to greater female economic empowerment. Even where Purdah is less strictly observed, women are not

educated enough, do not have access to enough resources, and are often in poor health; hence, strong barriers to the seizing of economic opportunities remain.

In Bangladesh, the Campaign for Promotion and Protection of Breast-Feeding seeks to influence social norms that are not regulated by the state by motivating the factories, offices, and industries that employ women to provide breastfeeding facilities.

In the India case study, a Delphi study of academics rated female literacy as the most important determinant of child nutrition, with women's employment being rated sixth. However, important caveats to the general recommendation that "women should be encouraged to engage in more income earning activities" are made. Child care provision, maternity leave, part-time employment, flexible work times, and home-based income generation, were all seen as important strategies to avoid the complete delinking of employment and child care.

The Tamil Nadu Integrated Nutrition Program (TINP) and the Bangladesh Integrated Nutrition Program (BINP) are two examples of large-scale nutrition programs in the region that are attempting to formulate responses to these concerns and to internalize them at all stages of design and implementation. The BINP, for example, is based on a partnership between community nutrition promoters and women from the community who help mothers identify the causes of malnutrition in their children. There is a focus on care practices, and the prevention of malnutrition before, during, and after pregnancy. The nutrition promoters work with the women to help them recognize and overcome gender asymmetries such as intrahousehold allocations of food that mean women get served last and least (UNICEF 1998). In addition, Village Women's Groups prepare food that is sold to nutrition centers for malnourished women, thus supporting the women's groups, building social capital among women, and empowering the decision making of women via small but important sources of cash. Similarly, the TINP utilizes women for implementation, primarily through the support of local women's groups.

Changes in Project Design

Designing projects that are sensitive to gender relations is another way of improving women's status. However, designing projects along these lines requires resources. This section asks two questions: (i) does it make sense in terms of overall project success to pay attention to gender relations in project design? and (ii) what is the best way to pay attention to gender relations in designing projects?

Does it pay off to pay attention to gender issues in project design? Until now we have not been able to find multi-project level data to answer this question. The World Bank has made data available on all 271 of its projects in the agricultural and human resource sectors (education, population, health, nutrition, and social sectors) that were approved during or after fiscal year 1987, and were completed and evalu-

ated by calendar year 1997. For each project, the World Bank has assessed the success of the project in terms of its overall outcome and its sustainability. For the 271 projects in the sample, 68 percent were classified as satisfactory in terms of overall outcome and 44 percent were classified as sustainable. In addition to these outcome indicators, a number of gender indicators are available. First, there is an indicator of whether or not there was a gender objective in the project design. Second, there is an indicator of whether or not the project achieved a gender objective (the evaluators did not know if a gender objective had been stated in the project design). Third, for a small subset of the projects we know whether or not a gender analysis was undertaken.

Regression results (not presented here but available from the author) describe the association between project sustainability and gender achievement, controlling for location of project, fiscal year in which it was approved, the per capita GNP of the project country (not in PPP), the sector it is in, projected project costs at approval, the credit canceled when the project was closed, whether there was an IDA component to the project, and the value of the World Bank loan committed at project approval. For more details of the variables and projects see Murphy (1997). Controlling for a wide range of project specific factors, achieving gender goals is positively associated with a 16 percent increase in the probability of project sustainability. This positive association is no different for projects in South Asia nor for population, health, and nutrition projects (interaction terms were not significantly different from zero, results not shown). Note that gender achievements are significantly correlated with having gender objectives (correlation coefficient of 0.58), but having gender objectives is not statistically significantly associated with project sustainability (result not shown here).

It is easy to oversell these results. While gender achievement is not a built-in component of project sustainability (i.e., there is no forced correlation), the factors that lead to gender achievements may also lead to project sustainability. Hence some of the 16 percent increase in project sustainability from a gender achievement implied by the regression results may well be due to other factors that are not captured in the other explanatory variables. More work needs to be done to collect and analyze data such as these, from the development banks, governments, and NGOs, to isolate the impact on project success of attention to gender relations in project design.

Many agencies have taken the positive impact of attention to gender relations on project success as a given. But increasingly in the past 20 years, attention has been paid to the key question of how to design development projects that engage women and provide them with opportunities to share in the benefits of project implementation. Three main approaches have been tried: (i) women-only projects; (ii) projects in which women are allocated particular resources through women in development components of larger projects; and (iii) integrated projects in which

gender issues are incorporated or “mainstreamed” from the beginning of the project (Carloni 1987, Anderson 1990).

There is a widespread feeling among development agencies that while they have been useful activities, the time of women-only income generation projects (as opposed to welfare or nutrition projects) is past. Women’s projects have served to raise awareness of the spheres of activity controlled by women and men within the same household, and some projects were successful in reaching their defined goals. Nevertheless, if well-designed women-only projects and women’s components have demonstrated certain advantages in offering opportunities to rural women, such projects are generally unsustainable if they are not tied into mainstream development plans and activities. Table 10 summarizes the advantages and disadvantages of each intervention type.

Experiences of the past 15 years suggest that gender-sensitive mainstream projects are the most effective way to address women’s needs while, at the same time, enhancing their socioeconomic status. Women should be seen not just as “isolated beneficiaries,” but also as active participants together with men in the development process. This calls for the designing of projects that directly benefit women by simultaneously enhancing their productivity and earnings alongside those of men. Women’s special needs and economic growth can best be addressed by raising women’s access to project inputs and outputs alongside, and in equal proportion to, men’s. For acceleration of “mainstreaming” to occur, project planners and policy-makers need to shift their attention from how to help women to the central question of how to help men and women through the formulation of more effective projects through a better understanding of local gender asymmetries and relations.

The previous discussion in this subsection has implied top-down design. What about the bottom-up participatory approaches to designing projects that are sensitive to gender relations? The underlying premise of participatory approaches is that the reality of the poor is what counts. Few would argue with this. One example of the different priorities that planners and communities have comes from a review of public works programs in Ethiopia by Webb et al. (1994). The study concludes that, while most public works type projects are based on soil conservation or reforestation objectives, the activities are among the least desired by the participants themselves. The study finds that the participants most desire public works projects that are related to health and sanitation such as health clinic construction, piped water, and latrine building.

Table 10: **Summary of Advantages and Disadvantages of Three Main Project Types**

Project Type	Advantages	Disadvantages
Women-only	<p>Good starting point in reaching women, especially in cultures where their economic opportunities are often limited; could be effectively used as pilot projects for bigger projects</p> <p>Have been found to be particularly successful in delivering training, health/nutrition benefits, and family planning services</p>	<p>Generally not as successful in increasing productivity and incomes due to tendency to involve women in traditional/domestic “welfare-oriented” activities that often yield low economic returns</p> <p>Tend to be underfunded</p> <p>Work with women in “isolation”</p>
Women-component	<p>Part of a bigger project from which women could gain access to more resources and technical expertise; could be effective and possibly sustainable if well-integrated with other project components</p>	<p>Tend to have small share of budget relative to other project components</p> <p>Often focus on women’s domestic roles, not their economic ones</p> <p>Components often remain separate from other project activities—they do not establish needed linkages</p> <p>Tendency to overlook gender issues in other nonwomen-components that could result in unintended/negative outcomes such as increasing time demands on women</p>
Integrated or Mainstream	<p>Gender sensitive integrated/mainstream projects are designed to deal with gender differences and complementarities; they do not deal solely with women, but with women in relation to men, the community, and society</p> <p>If integrated well into mainstream structures, could ensure sustainability</p> <p>More likely to enhance women’s socioeconomic status than women-only projects and women-components</p>	<p>Could be ineffective if they simply assume that women will benefit as part of project population without taking into consideration gender-specific potentials and limitations in program design and execution</p> <p>May also concentrate only on women’s domestic roles although they have a better record of also considering women’s economic roles than women-only projects and women-components</p> <p>Integration of gender concerns makes it more difficult to isolate and identify gender-differentiated impacts due to the project</p>

Source: Pena, Webb, and Haddad (1996).

Irrespective of whether more community participation leads to more appropriate choices for the community, does increased community participation in project design improve project performance? In general, the payoff to beneficiary participation has been poorly measured. One of the first studies to address the question as to whether participation improves performance was by Isham et al. (1995). Using a range of performance indicators for 121 rural water projects from 49 countries, Isham et al. found econometric evidence that participation of beneficiaries (based on indicators

from consultation and shared decision making to exclusive participant decision making) was strongly correlated with performance. In conclusion, they note that this result may not hold outside of the water sector, nor is it clear how policy can provide incentives to stimulate participation, and whether the benefits of participation outweigh the costs.

However, participation at the community level may well reinforce existing gender asymmetries that are loaded against women. In selecting individuals for employment on public works projects in South Africa, community-based project steering communities and street committees were heavily involved, but the values and attitudes of the individuals on those committees proved crucial to the selection of women. When a woman's name was drawn out of a hat by a committee member, often her name was discarded and another name drawn because the committee members determined that the work was not suitable for a woman, perhaps because it was construction-related. Support from the implementing agent, typically an NGO, to women was important in allowing women the right to choose whether or not they take up the job. A factor making their decision much easier was the presence of a creche (Adato et al. 1999).

The projects covered in this section have been, for the most part, non-biological. Two recent review papers focus on the effectiveness of specific interventions in reducing intrauterine growth retardation (de Onis, Blossner, and Villar 1998) and maternal morbidity (Kulier et al. 1998). The review by de Onis et al. (1998) of 136 randomized controlled trials evaluating 36 prenatal interventions aimed at reducing intrauterine growth retardation is discouraging in that it identifies only balanced protein/energy supplementation as increasing birth weight and then only marginally. Data and evidence on other interventions such as nutrition advice and a range of micronutrient supplementations are too weak to recommend for routine supplementation programs. de Onis and her coauthors raise questions about whether we should expect one-shot nutrition interventions to be able to overcome the effects of long standing social and nutritional deprivation. The authors also call for more and better designed studies on interventions that target women during pregnancy.

Kulier et al. (1998) find more positive evidence with regard to nutrition interventions for the prevention of maternal morbidity. They conclude that, for populations with a high incidence of nutritional anemia, iron and folate supplementation should be routine during antenatal care. Pregnant women in low calcium areas should be encouraged to increase their consumption of this element via their diet. The effectiveness of other micronutrient interventions such as zinc and magnesium is less conclusive.

Conclusions

Women in Bangladesh, India, and Pakistan have a lower status than in the other countries of South and East Asia, and a lower status than in most other countries in the world. Low female education levels are associated with higher levels of household poverty. Put more positively, increases in female status and female education have been estimated to account for 50 percent of the reduction in child malnutrition rates over the past 25 years. Low women's status is perpetuated from one generation to the next, via preferences for boys, higher rates of female infant mortality, less health seeking behavior for girls, less food given to girls, and lower educational investments in girls. Interestingly, these differences do not manifest themselves in anthropometric measures, but we speculate that this might be due to the fact that the missing girls are not counted in the anthropometric indicators. This discrimination against women is deeply rooted in culture and traditions in these three countries, particularly in their northern and western regions, and is reinforced by economic incentives that favor boys over girls, even controlling for their different levels of human capital.

What can development actors, including the Asian Development Bank and UNICEF, do to reverse this discrimination?

First, awareness of women's status relative to men needs to be increased among men and women. At all levels, the importance of improving women's status for development and nutrition needs to be repeatedly reinforced: what are the current levels, the consequences and determinants of those levels, and which interventions can improve them? The best way to achieve this is to do a better job of monitoring women's status and the women-friendliness of public policy. This can be done in a number of straightforward ways: sex-disaggregated human rights measures; score-cards on the discrimination embedded in formal sector policies; gender-sensitive public sector budgets; the percentage of women in decision-making positions at all levels of society; the percentage of women living in households below the poverty line; the education ratios of girls and boys; and the ratio of life expectancy of men and women.

Second, policies and programs that build upon the positive behaviors of women should be designed. For example, if women spend more of their incremental income on children than men do, target women in income transfer programs, particularly if such transfers can be tied to other behaviors that are good for children, such as health clinic visits and school attendance. Third, work with NGOs that target women. The large credit programs in Bangladesh demonstrate that it does make a difference to target women: they spend more on children and they feel more empowered in other decision making areas. Fourth, design projects, both from the top down and from the bottom up, that are sensitive to asymmetries in resource access, responsibilities, and rights. Evidence presented from World Bank projects in a number of sectors shows

that projects that pay attention to gender asymmetries are 16 percent more likely to be sustainable.

Gender sensitivity needs to be woven into the project at all stages: design, implementation, monitoring, and evaluation. A strong and recurring theme in the broader literature and the country case studies was the need to provide child care facilities for working women. Note that participation at the community level should not be equated with gender sensitivity. Gender asymmetries at the community level can easily be reinforced by projects that work with community elites.

Finally, nutrition interventions need to be found that directly address maternal morbidity, intrauterine growth retardation, and low birth weight. This is a daunting challenge given that these interventions would need to counteract years of discrimination against women. Nevertheless, approaches have to be found and evaluated in a systematic manner.

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