The Consultative Group on Early Childhood Care and Development

WOMEN'S WORK AND CHILD CARE

Supporting the Integration of Women's
Productive and Reproductive Roles in
Resource-Poor Households in Developing Countries

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Introduction

The origin of this paper lies within a broad set of questions about how women's income earning activities and household responsibilities are influenced by technological advances and how these dynamics, in turn, affect the use of health and nutrition technologies and influence the welfare of household members, especially children. Within that broad topic, we will focus on one crucial task—child care.

The welfare of children is almost by definition a product of the way in which child care is organized and carried out. Child care is the process of attending to basic needs for shelter, protection, clothing, health, nurturing, and stimulation. It includes the attention needed for survival, growth, and development. Each element of child care can be approached in many ways, with choices from among a range of technologies. For instance, health care may be provided through a high-technology hospital-based system or through a community-based system of primary health care and/or by turning to the "indigenous" technology offered by local curers.

The way in which child care is organized affects poor women's economic responsibilities and opportunities as well as her own health and her children's welfare. The lack of appropriate child caretaking arrangements may reduce or limit economic opportunities or jeopardize the health and well-being of poor children and women, or both. Examining child care, therefore should contribute to an understanding of conditions at the level of the household that help poor women to integrate their productive and reproductive roles. It should also help to identify the supportive conditions that are necessary for sustained adoption of new health and nutrition technologies.

Generally, responsibility for choice and the effective use of available child care technologies falls to women in their socially-prescribed roles as mothers and/or home managers. Women are, therefore, central to the child survival and development crusade that has gained momentum since 1980, with a focus on primary health care and the use of technological advances to combat infection and aid healthy growth, such as immunizations against common childhood diseases; oral rehydration and other basic medicines to combat infections, especially infant diarrhea; promotion of breastfeeding for infants; and better nutrition and health care for children generally. The crusade reflects a broad shift from institutional, professionally- controlled services toward more participatory health and child care strategies. That shift began in the late 1960's and has deepened in recent years as the worldwide economic recession and related adjustment policies have made social services, particularly health services, increasingly inaccessible to the poor (Youssef and Hammon, 1985).

These more participatory health strategies depend heavily on time and energy inputs from women (Leslie, Lycette, and Buvinic, 1986), but participatory strategies are being promoted at the same time that women are pressured to assume even greater economic responsibilities than they are already carrying. In part, that pressure also results from worldwide economic recession. In the main, however, it accompanies and derives from longstanding economic and social trends such as increasing landlessness due to redistribution, erosion, and reforestation, the shift from food crops to export and cash crops, the technological displacement of women from traditional tasks such as weeding and home production of clothing, industrialization, the migration of men

and adolescent children from rural to urban areas, and the monetization of economies. All of these contribute to the increasing search by women for ways to earn cash income, usually in jobs that are labor and time intensive.

At the same time that poor women's economic obligations to their families are increasing, and the public health community is expecting their increased participation in primary health care, women's domestic responsibilities remain essentially unchanged (Buvinic, Lycette, and McGreevey 1983). Poor women continue to perform and to manage essential tasks such as drawing water, collecting firewood, and caring, nurturing, and feeding their infants and young children. It is women who bear the children and it is almost exclusively women and female children who manage the tasks of caring for them.

The difficult decisions and limited options faced by poor working women as they struggle increasingly to balance their multiple roles as mothers and economic providers have been well-documented in recent years (Buvinic, Lycette, and McGreevey 1983; Carloni 1984; Dwyer 1983; Engle 1980; Nieves 1979, 1981). Research has been less successful, however, in unravelling the net effects of these decisions on the well-being of both women and their children. This is in part a conceptual problem reflecting culture-bound misassumptions about women's roles in the developing world. Moreover, most research analyzing the multiple roles has been based on a linear model taking women's work as the causal factor and children's welfare as the effect, with an assumed trade-off between mutually exclusive mothering and productive roles. This conceptualization does not allow analysis of the overlapping and interactive nature of these roles. It disregards the possibility that attending to the survival and development needs of the family affects the kinds of productive work that can be undertaken as well as the reverse. It omits other variables, including a women's own health and energy level. And, it fails to recognize that the poverty which drove the women to work in the first place may be causing poor health and malnutrition, not the mother's work or, more generally, that both women's work and child nutritional status may be affected by the same set of underlying circumstances.

In this paper, we emphasize the need to step back in and to ask how the relationship between a woman's mothering and productive roles is itself a product of varying economic and socio-cultural environments, particularly at the level of the household. We urge a closer look at variables mediating the work/welfare relationship. One important set of intervening variables relates to child care, including the availability and quality of child care and development programs.

1. To a lesser degree, the move of women into income earning jobs is associated with an ideological awakening to the role of women as economic providers and an associated desire to improve the power and status of women in general as well as within their own households.
2. We will touch on women's health issues within the context of their multiple roles as mothers and economic providers but for a more complete discussion of poor women's particular health needs and those related to their specific work occupations see C.P. MacCormack, "Health Risks Women Incur in Production in Developing Countries," Ross Institute, London School of Hygiene and Tropical Medicine, 1982.
3. We use the term "household" and not "family." The two terms are used interchangeably throughout this discussion, but it is important to note that they are not synonymous (Bennett

1983; Nieves 1983). Members of families are related by conjugal or consanguineal ties. Households can consist of several families, and while their members are often related by these same ties, this is not always the case. Households and families in situations of poverty adjust their structure and composition to meet changing economic and social demands in response to migration, the agricultural seasons, family life cycle stages, and levels of poverty (Nieves 1979, 1981; Tienda 1980a, 1980b; Safilios-Rothschild 1980), an important point that will be discussed in more detail in relation to child care coping strategies and needs.

Organization of the Paper

Following this introduction in section one, we review in section two the evolving perspective brought to the analysis of the relationship between women's work and child welfare, highlighting three common misassumptions about the form and content of poor women's productive work and child care roles.

In the third section, we explore the caretaking strategies of poor women, relating them to variations in characteristics of their work. We also look at child care in relation to the composition of households and to shifts in children's needs as they grow older, and family's needs at different stages in the family cycle. We then examine informal and formal programs of child care and their utilization, noting that many programs, particularly the more formal ones, have been based on the same myths about the form and content of women's work and caretaking roles discussed in the first section of the paper. This is reflected in relatively low coverage, an urban bias, often inflexible and inconvenient hours, and high costs for services.

Section four suggests a program framework that supports poor women's productive roles by taking into account variations in the characteristics of their work and in child care needs. We try to avoid undue assumptions about compatibility, and suggest that child care programs must recognize the reality and conditions of poor mothers' work, including the daily time and labor demands of essential domestic tasks, the variation in seasonal workloads, and the distance of the workplace from home. The latter portion of this section takes the framework a step further by relating the setting and content of these child care and development programs to the direct delivery of specific health and nutrition technologies.

A final section highlights a continuing need for redefinition of concepts and measures, comments on existing frameworks of analysis, and extracts suggestions for research and evaluation and for program development.

Women's Work and Child Welfare: An Evolving Perspective

Both the need to support and create income earning opportunities for poor women and the need to improve the health and well-being of their infants are important development priorities. In both cases, there is a need to know more about the reality of poor women's lives in the developing world. That unfolding reality brings appreciation for the difficulties involved in fulfilling these intersecting needs, reveals innovative survival strategies being used, and provides a basis for formulating meaningful programs benefitting both women and children.

The need for a revised analytical framework accurately portraying the reality of poor women's lives in the developing world—and from there understanding the complex set of relationships that influence child health and nutrition—has been suggested by several reviewers (Bennett 1983; Carloni 1984; Dwyer 1983; Mueller 1982; Oppong 1982). The revised framework would have three general characteristics. First, it would avoid the culture-bound assumptions about the role of women and children in society and about the functioning of household systems. The assumptions have provided major barriers to conceptualizing productive roles and caretaking responsibilities in the Third World in an integrated way. Second, it would incorporate attention to the internal dynamics of households, so that "an understanding of the social and political economy of the household as a system becomes key in understanding the factors which influence intrahousehold allocation, particularly as it relates to health and nutrition behavior" (Bennett 1983). And third, it would avoid both setting up linear cause and effect relationships and rigid dichotomization of women's roles into productive and reproductive roles so that the two necessarily involve "trade-offs" of time and energy. Instead, attention would be given to mediating variables affecting both income earning and child care time as they in turn affect both the productive role of women and the nutritional, health, and psychosocial condition of children. The called for revision has been evolving over the last decade or more.

In the 1960s, the New Household Economics (NHE) provided a fresh starting point for many scholars concerned with the relationship between women's work and child welfare. The NHE identified the time of individual household members as an important household resource, thereby shifting the analytical focus from income earned to use of scarce time. This advance helped eventually to broaden the definition of a woman's productivity to include activities that used time to a productive end even though women did not receive income for their work. However, critics of the original NHE approach pointed out that much of the research based on the NHE framework focused on what were seen as trade-offs between the potentially positive effects of time devoted by women to increasing income by working outside the home and the potentially negative effects of reduced child care time in the home. This focus was based on Western ideas about the role of women in society and about the social and political dynamics of household systems.

In this paper, we will discuss three common misassumptions, or myths, that have emerged from the critique of NHE and that are closely related to child care issues. They have been labeled:

1. The myth of the mother as housewife.

2. The myth of the mother as sole caretaker.

3. The myth of an altruistic family core.

THE MYTH OF THE MOTHER AS HOUSEWIFE

One cannot assume, as is often done, that all, or even most, women in the Third World are fulltime housewives; that is the exception rather than the norm (Nieves 1983). A great deal of research in recent years has documented the type and extent of economic activities performed by poor women in the Third World and their contribution to family income, helping to dispel the earlier Western notion of women as housewives. A six-country study, in 1979, of low-income mothers in Asia and Latin America, showed clearly that the surveyed women work because their families desperately need cash income (OEF 1979). Although many poor women are also motivated to work by a desire for greater status, independence and decision-making power within the household (Leslie 1985), the unsettling fact is that women living in poverty have no choice but to work (Nieves 1981; Safilios-Rothchild 1980).

The view of women as housewives fosters the inaccurate view that women's work, if and when it does occur, takes place almost exclusively outside the home, whether in a rural or urban setting (Carloni 1984). A problem of definition and measurement narrowly linking "productivity" to income helps to perpetuate that myth. Most income-earning work is performed outside the home; most women's work is not. Women create products at home to sell outside. They weed fields, gather firewood, haul water, and prepare food, all of which make vital contributions to the household economy. These home production activities have always required substantial time and labor inputs from women and female children, but they were generally ignored in estimates of women's work because they usually do not generate cash income and are performed near or inside the home.

Our own definition of poor women's productive activities includes income earning activities both inside and outside the home and home production activities. The definition includes activities that may take place in rural or urban areas and in the formal or informal sector. We will argue below as we discuss the relationship to child care that the characteristics of the particular work a woman carries out are more important than whether the work is inside/outside the home, urban/rural, or formal/informal. This view of productive activities can be applied equally well to looking at the activities of other household members as well as the "housewife."

Defining productivity in terms of paid work outside the home resulted in a significant misrepresentation of women's contribution to the household economy and an underestimation of the demands made on women's time and labor (Buvinic, Lycette, and McGreevey 1983; Leslie, Lycette, and Buvinic 1986). Although national accounting systems do not reflect the fact, it is now acknowledged that, when all working hours among family members are assigned an economic value, the contribution of women (and children) to household income can be even greater than that of poor men in the developing world (King and Evenson 1983). This is so despite the fact that, whatever the location or sector, the work of women tends to be low-paying, time-intensive (often requiring long hours), labor-intensive (often requiring heavy physical labor), irregular, seasonal, and low in productivity (Anker, Buvinic, and Youssef 1982; Buvinic, Lycette, and McGreevey 1983; Commonwealth Secretariat 1984; Leslie 1986; Nieves 1981).

A particularly important contribution of recent research on women's productive roles has been the identification of women-headed households among the poor and a recognition of their growing number. Over 40 percent of rural households in Kenya, Botswana, Ghana, Sierra Leone, and Lesotho are headed by women (Youssef and Hamman 1985). Such households are found in rural and urban areas and are characterized as lower in income, with more younger children, fewer secondary sources of income, and as having less access to productive resources as compared to male-headed households. These households are more dependent than others on wage earnings from casual labor. Their nutritional vulnerability derives from higher dependency on purchased food or transfers in the form of food subsidies, as well as declining real wages and employment opportunities (Carloni 1984). A substantial proportion of the female heads of households are also in the "prime" working age group (25-29), the period in the life cycle when the burden of household dependency is likely to be greatest (Merrick and Schmink, 1983).

Associated with the myth of mother as housewife is an assumption that mothers are always physically and mentally able to carry out a domestic role. Mothers are invincible. That view reinforces the tendency to look only at the effects of her work on her children, to the disregard of the effects on her own health and well-being.

It is assumed, for instance, that mothers can breastfeed. Declining rates of initiation and duration of breastfeeding have negative effects on child nutrition, which explains the emphasis in research on monitoring infant feeding practices among women who work. However, while the importance of breastfeeding for the health of the infant cannot be overemphasized, very prolonged lactation constitutes a heavy physical burden on poor women who frequently experience unbroken cycles of pregnancy and lactation and who are, at the same time, expected to produce food and cash income to support their families. In a study of nutritional stress and economic responsibility among women in three areas of Nigeria, Harrington (1983) found that it is women aged 25-34 who fall most often into the highest nutritional stress ranges, having spent more than 60 percent of their time either pregnant or lactating. Almost one-third of the Ibadan and Benin women and one-half of the Kano women in the highest nutritional stress groups have medium-high or high scores on participation in the payment of the basic necessities of their households.

Also, many poor women perform heavy labor, particularly in the rural areas, which increases their nutritional and physical stress, which in turn makes lengthy breastfeeding dangerous for both mother and child. The demands of lactation are longer and more costly in terms of nutritional demands than those of pregnancy. A malnourished, lactating mother with high parity not only produces poor quality milk for the infant, but experiences chronic depletion in nutritional and energy levels (UNICEF 1986a).

Biological links between the mother and infant during pregnancy and lactation mean that the mother's health and nutritional status as well as her reproductive pattern influences the health and survival of the child. For example, maternal age, parity, and birth interval have all been shown to exert an independent influence on pregnancy outcome and infant survival through their effects on maternal health. Synergism also exists between these maternal variables, such as short birth spacing combined with maternal age (Mosley 1984). Research on women's work and child welfare needs to pay more attention to the influence of maternal health factors not only on

the health of their infants and children, however, but also on the ability of the women themselves to live healthier lives while they struggle to balance the multiple burdens associated with their economic and reproductive roles.

In the literature, the definition of a woman's productive role varies significantly. Nonetheless, all definitions of a woman's productive role include income earning outside the home. Some include income activities in, or near the home. Some include non-income activities such as weeding or preparation of food for market. Fewer definitions include domestic chores (such as collecting firewood, cooking, and washing which we have labeled "homeproduction." These chores are often seen as part of the "reproductive" role which always includes child care activities. Some confusion surrounds the notion of a "reproductive role" because some authors link this to a woman's biological reproductivity, extended to care for the child, whereas others link it to the reproduction of societies through care and socialization of the young.

THE MYTH OF THE MOTHER AS SOLE CARETAKER

A second myth supporting the oversimplified position that women's work trades off directly against child welfare is that the mother is the only caretaker of young infants and children (Nieves 1983; Oppong 1982). When mothers work, therefore, supposedly their child care time is reduced in direct proportion to the time they invest in "work" activities, usually those defined as taking place outside the home. Presumably, then, the need to work trades off also against the use of health and nutrition technologies which require time to use.

While it is true that the care and nurturing of infants and young children is primarily the responsibility of women and female children in the developing world, mothers are not the sole caretakers of children in most societies. Indeed, researchers have noted that it is the exception rather than the rule for Third World mothers to do most of the child care unaided (Mueller 1982; Nieves 1981, 1983; Oppong 1982; Weisner and Gallimore 1977). Only recently, however, have the roles of other family members in performing domestic and child caretaking tasks been given attention in time-use studies, showing that they make necessary productive and caretaking contributions to help maintain family survival. Although the role of older siblings as caretakers of younger children is the norm in many places, and not a stopgap measure, the impact on child welfare of their role has been poorly documented and little understood. It is not necessarily a negative one.

The degree of a mother's direct involvement in caretaking depends in part on the age of the child. In the Philippines, child care and mother's care are virtually the same although the care of both overlaps with other tasks and responsibilities. During early childhood, it is usually the mother who spends the most time in child care activities (Ho in the Philippines 1979; King and Evenson in the Philippines 1983; DaVanzo and Lee in Malaysia 1983). That does not necessarily mean, however, a trade-off against productive activities. According to the time-use studies just cited, mothers rearrange their time so that child care and home production time are maintained, while "leisure" time, such as sleep and personal grooming, is greatly reduced and market time is kept to a minimum. As the youngest child gets older, the mother delegates concrete child care activities, such as feeding, bathing, dressing, and supervising child care to others. The time of the

mother released from child care is transferred almost exclusively to market production time with women continuing to work long hours, taking little or no leisure (Ho in the Philippines 1979).

The use of older siblings to care for younger ones is a common pattern of nonparental caretaking (Engle 1986a, 1986b; Mueller 1982; Nag and Kak 1984; Nieves 1981, 1983; Oppong 1982; Safilios-Rothschild 1980, 1982; Weisner and Gallimore 1977). Sex-based differentiations in the task can be found among siblings, although the differences are less sharp before adolescence. In general, and in both rural and urban areas, girls begin to shoulder this burden earlier than boys do and often carry a heavier workload in general (Safilios-Rothschild 1980). This is particularly true in female-headed households and landless households (Safilios-Rothschild 1980; Schmink 1983). Time-use studies in rural areas of Yemen, Bangladesh, Botswana, Nepal, and Java repeatedly found that young girls spend more time in household and child care tasks than do boys (Chamie 1983).

The use of caretakers other than parents is often tied to cultural practices and beliefs (Weisner and Gallimore 1977), but is also related to the simple availability of individuals to assume caretaking roles, first within the family, then outside. Availability depends on the composition and size of the residential or domestic group. Extended or joint domestic groups, particularly those with extended female kin such as grandmothers and co-wives, provide a wide range of caretaking opportunities (McSweeney 1979; Weisner and Gallimore 1977). In contrast, where a mother lives alone with her children and where kin or other socially relevant caretakers must assist with productive work or live far away, nonparental caretaking is severely limited. For example, in female-headed households, mothers often depend on sibling caretaking (Merrick and Schmink 1983; Nieves 1981; Safilios-Rothschild 1980). One study in Bogota, Colombia found a relationship between household structure and caretaking patterns. While women-headed households relied on sibling care, mothers living in extended households relied on other female relatives, and mothers living with men depended on friends, neighbors, and maids for child care (Rosenberg 1984; cited in Engle 1986a).

Child care can also take place outside the residential unit, particularly among low-income families (Oppong, 1982; Nieves 1979, 1981). Children are sometimes sent away to live with other relatives in other households when conditions are not optimal for child rearing within their own homes. Social networks within the same neighborhood may also provide a place for caretaking. More formal arrangements for attending to young children may be available as well.

THE MYTH OF THE ALTRUISTIC FAMILY CORE

In the conceptual model of the New Household Economics, an assumption is made that the family unit operates according to a joint utility model; that is, that all household members share the same preferences and priorities for the use of household labor, time, income, land, and leisure. (Bennett 1983). A discussion of this misassumption contributes less directly to undermining the perceived dichotomy in thinking about women's productive and reproductive roles in the Third World than the first two myths we discuss. But it is particularly important for understanding the social and political forces at play at the level of the household which influence resource allocation, which in turn influence the utilization of health and nutrition technologies and hence affect family well-being.

A number of studies in recent years have shown that men and women often have separate obligations and priorities for meeting family needs. Results suggest that women generally show greater and steadier allocational inputs than men for children's basic survival needs. There is evidence, for instance, that the mother's income is a better predictor of child nutrition than the father's income where men's and women's responsibilities for family food are separate, a reflection of this differential behavior (Cornia 1984; Kumar 1978; Engle 1982; Popkin 1983; Safilios-Rothschild 1980, 1983). Some research has shown that even in societies in which women are not responsible for feeding the family when the poverty level of the family requires that they work and earn an income (whether controlled by the woman herself or by her husband), it is almost universally used to buy food (Safilios-Rothschild 1980). There is additional evidence that women's income routinely covers medicine and health care for children and female relatives, and that women's savings are critical for medical emergencies (Leslie 1986). The South Indian study concluded that "female labor force participation by any female over 12 years of age contributed significantly to the energy intake of young children" (1986, p. 72).

In situations of chronic scarcity, however, possessing both the knowledge of family needs and the income to provide for them does not necessarily guarantee control over these resources for improved health and nutrition. Household income is not always pooled (Guyer 1982; Jones 1983; Kumar1979; Roldán 1982; Safilios-Rothschild 1980). The diversity of needs and interests among family members results in a process of negotiations-serious "bargaining"-between male and female members and the allocation of the scarce resources are determined by the degree of decision-making power possessed by each negotiating party (Bennett 1983; Roldán1982; Safilios-Rothschild 1980). Furthermore, not all household members have equal bargaining power to enforce their own definition of utility and therefore not all members benefit equally from the way resources are actually allocated. This view interprets observed inequalities in the distribution of household resources as the most efficient reaction to the prevailing wage/price situation or as evidence of the household's maximizing behavior, but as evidence of structural asymmetries in the economic, social, and legal position of men and women, which give the two unequal bargaining power (Bennett 1983).

There is substantial evidence that gender-based inequities in access to household resources have direct implications for the nutritional and health status of each family member. For example, in patriarchal societies where family power structures are male-dominated, there is greater evidence of female than male malnutrition and undernourishment; unequal food distribution in favor of boys and adult males prevails (Safilios-Rothchild 1980, 1983).

"Bargaining power," or a household member's ability to realize personal allocational priorities, can be influenced by the individual's contribution to the household income, and some studies have shown that increases in women's income have given women more decision-making power and control over the distribution of resources within the household. Acharya and Bennett in rural Nepal (1982) found that women's involvement in market activities gives them much greater power within the household in terms of their input in all aspects of household and resource allocation decisions. At same time, confining women's work to the domestic and subsistence sectors reduces their power vis-a-vis men in the household.

While some researchers have noted that economic activities may be considered a necessary condition for female autonomy and power relative to men, they also point out that it is not a sufficient condition (Bennett 1983; Safilios-Rothschild 1982c; Youssef 1982). Social, cultural, and psychological dimensions also influence the degree of decision-making power and control over resources. For example, women in patriarchal, traditional societies cannot always translate their earnings into power because they often have less power and autonomy than women who don't work. This is especially true in households where men have low incomes and marginal occupations. In Acharya and Bennett's study in rural Nepal (1982), a number of socio-cultural factors influenced women's participation in the market economy. In general, the higher the household's image of the female sex, the lower the woman's participation in in-village market activities. Among the Tibeto-Burman women, higher age at marriage, greater female mobility, more positive female gender stereotype, self-choice of marriage partner, and marriage at close proximity to women's natal home were positively associated with higher female input into the market economy. Conversely, among the Hindu Indo-Aryan women, earlier age at marriage, negative female gender stereotypes, lack of female choice in marriage partner, and marriage at a greater distance from the woman's natal home were positively associated with the relative confinement of women's work time to domestic and subsistence production. Additional factors influencing women's bargaining power that have been cited in research include freedom to divorce and remarry, polygamy, and individual personality (Bennett 1983), prevailing segregation of the labor market, and sexual division of labor.

Decision-making regarding the quality and quantity of food for the family is not necessarily a female perogative. It belongs to the spouse who is responsible for food and who has control over the income for food.

0ther factors influencing the intrafamilial distribution of food include: the extent to which food is scarce (crop failure, poverty, poor distribution of food in remote rural areas, seasonal lack of food, scarcity of time for food preparation); who distributes the food and that person's characteristics ("nibbling" while cooking by young girls or grandmothers can reduce sex inequalities between nutritional status of boys and girls, and men and women); duration of breastfeeding and weaning practices; prevailing food practices, beliefs, and taboos (in Malawi, pregnant women cannot eat eggs, milk, or chicken); sex and birth order (mothers may favor older boys or older boys may be more aggressive in securing more food for themselves, especially if the food is distributed from a common bowl) (Safilios-Rothschild 1980).

The more traditional model of time allocation within the household assumes that household members will allocate their time and their expenditures on market goods so as to produce that combination of commodities that result in maximum utility (DaVanzo and Lee 1983).

The prevailing male-dominance ideology in these highly sex-stratified societies is adhered to by women as well as men, so that the women do not seek to become economically independent; they are involved in productive activities only by default. They are not socialized to want or enjoy independence, autonomy, and power based on their own productive activities (Safilios-Rothchild 1982c).

Proximity to natal home is an indicator of the degree of support a woman can expect from her natal kin groups after marriage (Acharya and Bennett 1982).

The Question of Compatibility

Some kinds of work are thought to be "compatible" with child care, allowing productive and reproductive roles to be combined, while others are not. Related to the myth of the housewife, there is a tendency to assume that work carried on outside the home is incompatible with child care responsibilities and that work in the home is compatible. However, a high-powered research project is not needed to conclude that that is at best a partial truth and certainly not a reliable generalization. It may or may not be easier, or less costly, for instance, for a woman whose productive work is at home to take the time needed to administer oral rehydration therapy than for a woman whose work is outside the home. For both, a significant block of time is required away from productive work. Conversely, some jobs outside the home permit children to be taken along and cared for while working. Thus, compatibility depends more on the demands of the particular work being done and on the needs of the child being cared for than it does on whether the work is performed inside or outside the home, or in a rural or urban setting.

Nor can compatibility be inferred easily from such broad classifications as "agriculture" vs. "non-agriculture" or "informal" vs. "formal" sector work, although that has been suggested. Agricultural work transplanting paddy or as a paid laborer during harvest time may not be compatible with child care whereas tending a home garden may be. Some "informal sector" work such as vending flowers on the street may be compatible, but that will certainly depend on distances to work and during work, on the surrounding conditions where the vending occurs, and on the age of the child.

In a strict sense, a woman's work is only "compatible" with child care if it allows her to care for a child while she is working. She does not, therefore, have to make alternative arrangements for child care. That is the interpretation often applied in discussions of compatibility and consequently, the search for compatibility between work and child care has not, to date, been very enlightening.

Discussions of compatibility that emphasize the ability of a mother simply to be present, and therefore presumably able to cope with caretaking, are superficial. Attention must be given also to how combinations of work and child care affect the quality of a woman's work and the quality of childcare. A job may allow children to be nearby and, in a sense, cared for, but at a sacrifice to productivity on the job. The work may be compatible with some aspects of child care but not others. Shelter and security and food may be provided, for instance, but conditions may be unfavorable for preventing and attending to sickness, or they may not permit care that enhances the development of a mentally alert and sociable child. Healthy growth and development require more than simply "minding" a child. They require time consuming attention, interaction, and stimulation, and a certain level of acquired knowledge.

The notion of "compatibility" is tied to the availability and the role of non-parental caretakers. In rural areas, for example, older siblings or extended kin may be available for caretaking tasks but

in marginal urban areas they may not be if families are smaller, if kin did not migrate with the family, and if siblings are under pressure to continue in school or to themselves enter the paid labor market. When alternative caretakers are available, the compatibility issue recedes.

In this paper we too are seeking a kind of compatibility between work and childcare by looking for ways in which support can be given to women to help them integrate their productive and reproductive roles. But we will take a broad view of compatibility, as suggested above. In the next section, we turn to an examination of child care and child care strategies as related to work characteristics, keeping in mind the cautions raised in this section. We will make more explicit our own definition of child care and will describe alternative child care strategies. In the concluding section, we will return to implications for future research and programming.

Relating Child Care and Child Care Strategies to Women's Work

Child Care

Child care is the process of attending to the needs of a child. An operational definition will, therefore, depend on the way in which needs are defined. In common usage, the term often refers to attending to needs for protection against the elements and from dangers in the immediate environment, for food, and for good health. These constitute basic custodial care, necessary for a child to survive and grow. Less frequently, child care is defined to include meeting psychological, social, and emotional needs. We will adopt a broad view of child care that includes:

sheltering
providing security
clothing
feeding
bathing
supervising a child's toilet
preventing and attending to sickness
nurturing
stimulating mental development
socializing the child to its culture

Each facet of child care has associated with it a range of technologies available for accomplishing the task. Some technologies are much more formalized and expensive than others, putting them beyond the grasp of poor families and, often, beyond the willingness of governments to commit funds to their support. The contrast between high- and low-technology in health and the shift to primary health care is well known, often discussed, and helps to motivate the writing of this paper because of concern about the ability of women to take adequate advantage of even the simpler technologies. Less attention has been given to contrasting technologies for other child care components. There is a parallel to health in the socialization component, for instance, part of which, increasingly, is preparation for schooling. Fancy pre-schools with imported Swedish blocks and highly trained pre-school teachers represent one technology being applied with children ages 3 to 5, in contrast with programs held in the outdoors, using stones and string and bottle caps, and organized by local mothers with a minimum of training. The latter can also prepare children for schools. We will have more to say about some of these options below.

The importance assigned to each facet of child care will depend on the age of the child, the extent to which the surrounding socio-economic environment puts the child "at risk," the ability of households to meet the needs, and the particular values of the society in which the child is growing up.

Each of the needs listed can be satisfied at various levels. A minimum level of feeding, health care, shelter, and security will be needed for survival. To realize a child's full potential, however, more than the minimum feeding and health care is necessary. And, attention to the psychosocial components is required as well.

Child Care Strategies among Poor Working Women

For low-income working mothers, the type of child care available is one of the most important factors determining participation in income-earning activities. One study in urban Brazil, for instance, found that the presence of young children was the most frequently cited reason far unemployment (Schmink 1982). Similar evidence exists for Malaysia and Sri Lanka (OEF 1979). In northern Thailand, female construction workers time their births to avoid a period of peak job availability and do not return to work until the child is at least one year old (Singhanetra-Renard 1982, quoted in Ware 1984). Outside of Singapore and Hong Kong, few married women and even fewer mothers are employed in factories. In Java women give up working when they become pregnant or at least after the birth of the child. In Malaysia, the employment of married women in factories is still extremely uncommon (Ware 1984). The presence of infants under the age of one keeps Sri Lankan women out of the labor force (OEF 1979). These examples emphasize unemployment or withdrawal from work. However, most poor women must work. They must, therefore, find coping strategies for child care.

There are three main ways in which child care responsibilities can be met by working women, to whom most societies continue to assign the care responsibilities:

1. Provide care oneself

2. Delegate responsibility, but manage and supervise

3. Use an existing service

In everyday life, these child care categories blur, with different patterns being used at different times of the year (or even during a day), and with different caretaking functions associated with different caretaking patterns. During the peak agricultural season, for instance, it may not be possible for a mother to provide direct care, even though she does so during the rest of the year, so a way must be found to delegate responsibility. Or, a woman may participate directly in the nurturing of her child but delegate feeding and purchase clothing. An upperclass woman may purchase the services of a care giver or a pre-school but continue to supervise and occasionally take part directly in the caregiving.

PROVIDING DIRECT CARE

Time-use studies indicate that in spite of the multiple demands on poor working women, child care is an important priority to them. Working women are reluctant to allocate less time to child care or to turn over child care tasks to others as their home production or market work increases, particularly when faced with unsatisfactory alternatives.

Reducing "leisure" activities. One coping strategy that emerges from time-use studies is to reduce the time spent in "leisure" activities, such as sleep and personal care as the working day becomes longer (Bunster1983; Engle 1986; Nieves 1981; OEF 1979; Popkin 1983). This strategy obviously takes its toll on women's health. If work does not permit physical proximity to a child during the day, this coping strategy will be a partial one.

Adjusting economic activities. Perhaps the most common coping strategy used by poor women to meet multiple responsibilities is to choose a particular job that allows them also to be available for child care responsibilities (DaVanzo and Lee 1983; Deere 1983; Bunster 1983); i.e., a productive activity in or near the home or work in which the child can be brought along. These economic activities are not usually found in the formal economic sector and tend to be labor- and time- intensive, and low in productivity. Mothers who work as vendors in both rural and urban markets also frequently take their children with them (OEF 1979; Bunster 1983; Deere 1983). Among low-income women in urban Brazil, women who once worked as maids find they are no longer welcome with children. The most common occupation for them becomes that of laundress, work which allows a mother to combine child care and work (OEF 1979). Working women in the slums of San Salvador and in Lima, Peru prefer work that keeps them either inside the home (piecemeal work for others) or very close to it (e.g., as market sellers), so that they can care for their children (Anderson et al. 1979; Bunster 1983; Nieves 1979). In a rural survey area of the Dominican Republic, even during harvest season, over 60 percent of the mothers continue to care for their children. In the rural community surveyed in Korea where many women do agricultural work, 43 percent of the mothers reported taking their children with them.

DELEGATING RESPONSIBILITY

In spite of her most valient efforts, a poor woman who must work will seldom be able to fulfill completely and at all times the responsibility for the many demands of child care. Consequently, some version of this second way to fulfill childcare responsibilities is followed by almost all poor women. In some cultures, child care is taken away from the mother and assigned to, for instance, the mother-in-law, or a second wife. That cultural practice is independent of whether a woman works and of where she works. In general, however, mothers retain responsibility and control, and, although responsibilities are delegated, working mothers still manage and supervise the child care.

Extended family. When the additional time and labor demands of a mother's work do not allow her to care for her child, the extended family is usually the first choice in helping her to meet her child care needs, even in urban areas. In a six-country study of low-income working mothers in Asia and Latin America, relatives were felt to be acceptable caretakers because they are trusted by the family to give the best alternative care (OEF 1979). A study in San Salvador revealed that

some women move in to live with their sisters or mothers so that domestic and income-earning responsibilities can be shared (Nieves 1979). In the Bataan Export Processing Zone of the Philippines, some working women chose to send their children to stay with grandparents in the rural areas. A larger number brought in relatives to live with them and care for the children (Zosa-Feranil 1982 cited in Ware 1984). Female-headed households, because they are poorer than their male counterparts, "double-up" more often (Safilios-Rothschild 1980). Children may also be sent to other relatives in other households when home conditions within the family are not optimal for childrearing (Nieves 1981; Safilios-Rothschild 1980).

Delegating child care tasks to older siblings. In very poor households, particularly in those headed by women, children, especially females, must start contributing their labor at an early age. (Cain 1980; Nieves 1981; Merrick and Schmink 1983; Safilios-Rothschild 1980). The children are expected to take on child care responsibilities as well as to contribute through work. Older siblings, almost exclusively girls, are kept at home more often to care for younger household members (Nieves 1981; Safilios-Rothschild 1980; Engle 1986a, 1986b). In rural Nepal, the presence of female children between the ages of 10-14 years old increases women's input into subsistence agricultural work (Acharya and Bennett 1982). These older siblings face alternatives that may be as grim as those of the mother. Should they continue in school, or go to work outside the home to earn money, or care for younger siblings so the mother can work? Just as for the mother, the answer may be, "All of the above."

Using informal social support networks. When older children and relatives are unavailable for caretaking tasks, another strategy is for working women to arrange for trusted neighbors to care for their children. This happens in rural settings and as well as in formal and informal urban settings. The use of informal social support networks made up of non-kin (as well as kin) is an important survival strategy among the poor not only for meeting child care needs (Nieves 1981) but also for a variety of goods and services used in reciprocal exchanges: information, job assistance, loans (including food, clothing, and tools), services (including housing and food),and moral support (Lommitz 1978).

Delegating child care responsibilities may work reasonably well for some components of child care but not for others. It may provide a minimum of security, for example, but make delivery of health technologies difficult because the mother cannot take the needed time to apply them, and because prevention is not seen by the alternative caretaker as part of the responsibility and because programs are not directed to the alternative caretakers. Or, there may be a difference in knowledge between the mother and the alternative caretaker about feeding and preparation of food. Or, feeding may be properly done, but nurturing and stimulation may not be adequately taken care of.

■ USING CHILD CARE SERVICES

Poor women cannot afford maids. If they are to purchase child care services, they will usually be purchased at great sacrifice or will be provided through cooperatives, the community, or the government. This third form of meeting childcare responsibilities is increasingly available and sought and will be discussed in a later section.

A LAST RESORT

When none of the above are possible, a poor woman may leave children, even very young children, alone for periods of time (Engle 1986a, 1986b; Nieves 1979). This unfortunate solution, born of necessity, may be more common than imagined. A study of poor working mothers in Bogota, Colombia, for instance, found that 10 percent of the mothers left their children alone when working outside the home (Rivera 1979).

Certainly, the underemployment of these women in low-paying, low-status, intermittent, time and labor intensive jobs is also due to their lack of capital and of access to credit and modern technology, lower levels of education, lack of job skills training, and the highly segregated markets for male and female labor.

Men's use of time, by contrast, does not vary much during their adult working lives (Birdsall and McGreevey 1983; King and Evenson 1983).

In a study of shantytown dwellers in México, Lommitz (1978) found that objective and subjective factors enhance or inhibit reciprocal exchange and thus influence the formation or disbandment of a network of family members as well as non-kin. These include: 1) prescribed social distance (between brothers vs. compadres vs. friends); 2) physical distance (being close neighbors frequently generates intense relations of reciprocal exchange between non-kin); 3) economic distance (needs are determined by a balance of resources and wants; reciprocity requires an equality of wants, otherwise the relationship becomes severed or converted into a patron-client relationship); 4) psychosocial distance, between two people, which implies a mutual desire and disposition toward initiating or maintaining a relationship of reciprocal exchange, presupposes a degree of social proximity (familiarity), physical proximity (opportunity), and economic proximity (need compatibility).

Influences on the Availability and Choice of Child Care Strategies

Choices among child care strategies will be influenced by the age of the child, household composition and life-cycle stage, the characteristics of available work, seasonality, and the availability of adequate program options.

Age of child. Recent reviews (Leslie 1985; Engle 1985) have pointed to evidence indicating that mothers who are able to work at home during the early months of a child's life are less likely to have malnourished children, but that as children grow older, the positive income effect of working outside the home may outweigh the greater child care time mothers can provide by being at home. As a child becomes mobile and is ready to talk, its needs change, affecting the choice of strategies. It is no longer possible for a woman to carry the child on her back, for instance. And, it is important to provide opportunities for language development.

Household composition and life-cycle stage. Delegating responsibility to family is only possible if extended family or older siblings are available to be called upon. When a first child is born, there are no older siblings to help out. When migration to the city occurs, extended family

members may or may not be available. Poor families adopt these flexible residential and organizational characteristics—extending the household with kin members who can share the domestic and/or market activities or "farming out" children—most frequently during the "life cycle squeeze," when income deficits are highest because of high numbers of dependent children (Tienda 1980b). These extensions change seasonally during the "wet and hungry" agricultural season as the demand for food, health care, and labor-saving devices is much higher (Safilios-Rothschild 1980).

Characteristics of available work. The availability of child care affects work choices, but available work will also affect the choice of child care strategies. If a job pays well, child care options open. If work is near home rather than at a great distance from home and if the task itself is not physically draining, it may be possible to continue being directly involved in child care, with only some delegation of responsibility.

Seasonality. Work and the choice of child care strategies have an important seasonal dimension that deserves elaboration. During the wet ("hungry" or "slack") season food and cash reserves are lowest and vector-borne diseases such as malaria and guinea worm are breaking. Incidence of diarrhea also peaks during the wet season. During the dry ("peak") season labor expenditures are highest for harvesting. Pregnancies and births which occur during these times can result in an increase in maternal and infant morbidity and mortality.

The women who have to work very hard during these seasons have little time to cook, and often cook only one simple meal, or else delegate cooking altogether to young girls (Safilios-Rothschild 1980). During these times, infants needing breastfeeding or special weaning foods suffer the most as well as lactating and pregnant women, who expend additional energy but during the hungry season consume less food. The adverse food conditions during the wet season and the excessive work demands on women during both the wet and dry seasons may lead lactating women to stop breastfeeding and prevent them from preparing special weaning foods. The health risks for both themselves and their weaned children are thus increased at times of high incidence of diseases such as malaria or parasitic and other infectious diseases.

Evidence from Gambia, Nigeria, Bangladesh, Korea, and Tanzania suggests the women reduce suckling time or wean their children during the wet season because of labor demands (Carloni 1984). In rural Gambia, 6-9 month old infants receive 40 percent less breast milk during the rainy season. Weaning-age child are fed only half as often as they should be, while women's own food intake is also reduced by 40 percent. Women in their last trimester of pregnancy reportedly lose weight instead of gaining as they should (Stinson 1986).

Evidence from rural Northeast Thailand shows that cooking and breastfeeding were reduced during rice planting and harvesting and a close covariation with miscarriages was observed during these times. Women and children are the main water collectors and this task becomes very arduous toward the end of the dry season, which also contributes to increased health and nutritional risk (Palmer, Subhadhira, and Grisanaputi 1983).

A study in rural Honduras noted that women specified that malaria, although chronic, was especially severe during the wet season. Other health problems reported by women to occur more often during the wet season were grippe, fever, infections, and diarrhea. Of all illnesses, malaria causes the longest and most frequent work disability lasting for a period of 2 weeks to a month each time it recurs. When the mother was sick and could not perform household tasks, in 43 percent of the cases daughters alone and/or with another family member performed these tasks. The second helper in importance was the mother-in-law (Safilios-Rothschild 1983).

In Matlab, Bangladesh, September and October, just before harvest, make up the lean period. Agricultural wages are low, food stocks are low, especially among the landless, and rice prices are high. In these two months births peak, reflecting a peak in conceptions during the often cooler and less stringent period which follows the main harvest. It was found that birth weights decline during this season when the mother's food intake is lowest; breastmilk output decreases indicating a reduced capacity for lactation; and nutritional status deteriorates, with most children either gaining little or losing weight (Cornia 1984).

The environmental conditions, which increase maternal and child health risks and labor demands, also influence child care patterns. Children are reported to be entrusted to older siblings' care more often during the peak seasons for women's labor (Carloni 1984). A study in Kerala showed that the child care constraint became more pronounced during the wet, slack season when the heavy southwesterly monsoon rains bring virtually all agricultural activity to a standstill and all other household members have to work longer to alleviate the decrease in income from the primary earners. "It was not uncommon to find even aged grandmothers working more often, though at very low wages, during the slack season. This meant that even they were unavailable for child care, and either the mother had to reduce her own employment, and hence income, or leave the child unattended" (Kumar 1978). There is also evidence that child care is affected during the dry, peak season. Postneonatal mortality rates are higher during the hot, dry months of May and June in the Punjab, when the incidence of diarrhea is highest. These are also the months when the Spring wheat harvest takes place and "child care becomes more haphazard," since all able-bodied adults and children participate in the harvest (Pebley 1984).

The Availability of Adequate Programs of Child Care and Development

From the previous discussion it is clear that there is a degree of conflict between a mother's work activities both inside the home and outside the home and infant/child care, even in rural, traditional societies. This conflict is particularly acute in resource-poor households where the opportunity cost of foregoing income is highest. This includes the following situations: Here women are the heads of the household; in nuclear households where there is a greater reliance on the earnings of the woman, and where alternative child care by adults is not necessarily available and there is a heavy reliance on sibling caretakers; where women's work outside the home is far away and there are no maternity benefits nor opportunities to breastfeed; where women's work around the home involves physically taxing work or work that is incompatible with the care of an infant or young child; and during particular seasons when work peaks. Both women and children can suffer worsened health and nutritional status. Women may need to sacrifice or reduce

income-earning opportunities or choose jobs that allow them time flexibility, which are usually low-paying, intermittent, labor and time-intensive in the informal sector, and which create the barriers to their formal sector employment opportunities. Children may have fewer opportunities for schooling. Both often have less access to what minimal health services may exist because of low-income and the competing demands on their time and labor. Efforts to improve their welfare are obstructed by this continuing cycle of poverty.

These conditions have helped to stimulate a growing demand for programs responding to this vast need for child care among low-income working women and their children. What has been the extent and quality of the response? Unfortunately, a review of the literature with an eye toward identifying child care arrangements that address the complementary needs of both low income working women and their children, reveals an approach to program planning based on the same myths explored earlier that conceptualize women's roles in the Third World as dichotomous. More often than not, poor women's economic needs are pitted against the health, education, and social development needs of their children. We will examine what seem to be two parallel responses, one of child-centered programs, the other, women-centered programs.

Child-Centered Care and Development Programs

Program evolution. Historically, most centers in the developing world providing attention to children were created specifically to cater to early educational needs of children. Called "preschools," their curricula were generally oriented toward preparing children for entrance into primary school and not toward the integral development of the child (IDRC 1983). These programs targeted 3-6 year old children with the assumption that mothers were available to take care of the social, intellectual, and mental development of their younger children. In most countries in the developing world, they were concentrated in urban areas and catered to middle and upper class children of nonworking women, therefore disregarding needs of working mothers who were assumed to be housewives. The upper class bias meant that an "integrated" approach including health and nutrition was not considered necessary. This preschool model had a strong Western influence and variations of the model were copied in many countries when Ministeries of Education began slowly to include early childhood education among their programs and to use public funds to expand coverage to lower-income groups.

Another strain of attention to young children had its origins in the volunteer work carried out by middle and upper class women and followed an often paternalistic model of social assistance directed toward homeless or other unfortunate children. These child care programs provided custodial care, and sometimes a developmental or educational component. They included children over a wide age span in the same program, were often boarding programs, and met the needs of a very small group for whom no alternative existed. This social welfare model carried over into later programs begun by social service or family welfare ministries. A third kind of program focussed on child care, in a custodial sense, providing attention to the health and nutritional needs of children of working parents. These centers were occasionally organized by employers and more often by governments—sometimes to serve its own civil servants, or, in the case of most socialist countries, on a much broader scale. They focussed on children aged zero to

two or three, were usually located within ministries of health or social security systems, and in most Third World countries were not widespread, particularly prior to 1980.

For most families in the developing world, child care and development continued to occur at home and was a family responsibility.

During the 1970s, the panorama of childcare and development alternatives began to change. Growing pressures for expanded and reformed social programs for children living in poverty in the developing world during the 1970s resulted in a new expression of interest in preschool programs by national governments, but by the late 1970s, these programs, while intended to promote early childhood education among the poor, were still reaching a small percentage of the population and most were middle-class and urban children (Myers in Latin America 1983; Swaminathan in India and Asia 1985). Those preschool education centers reaching poor children were characterized by a limited educational and learning environment, contrasting with centers for middle- and upper-class children who could choose from a range of educational and learning experiences facilitating their development (IDRC 1983).

Also emerging in the late 1960s and throughout the 1970s were child nutrition programs. These reflected a growing awareness of the importance of nutrition in early childhood and particularly the malnutrition of poor children in the developing world. Initially, these programs targeted 0-5 year old children and later, pregnant and lactating women. Most were either nutritional supplementation or recuperation programs. Many were not effective, for a variety of reasons, including their failure to change home environments and to understand the dynamics rehabilitation program was developed in the early 19709 to provide malnourished children with nutritional, health, and stimulation within nutrition centers. Once a child reached appropriate weight for age, he or she was returned to the family, but within a few months, many of the children reappeared at the nutrition centers, once again malnourished (Evans and Myers 1985).

More recently, programs or centers with a comprehensive view of child development have begun to expand. These programs bring together early education with nutrition, health, and other services in "integrated child development centers." These centers have been organized and operated by national organizations, such as the Ministry of Education, by private voluntary organizations, by communities, or by a combination of all three. Some programs rely principally on professionals but many employ para-professionals as well.

One example of a child-centered program offering "integrated attention" comes from Colombia where the Colombian Institute for Family Welfare (ICBF) used funds from a 2 percent payroll tax to establish a neighborhood center intended to serve children of working mothers. These centers employed a range of professionals and para-professionals as well as staff for cooking, cleaning, and security. Children were provided with meals and some health care. Emphasis was placed on the psychosocial development of children ages 3 to 6. Although well financed, these centers were costly, preventing expansion to many children. The poorest and neediest families were usually not cared for in ICBF centers which served only women working outside the home and did not admit children of women looking for work. Hours were sometimes adjusted to working womens' schedules and sometimes not. The lack of attention to younger children meant that a full child

care function was not being fulfilled for most families. No attempt was made to respond to the health, education, or parenting needs of the women whose children were in the centers. Thus, while the centers served needs of a select group of children, they did little to benefit mothers and only partially fulfilled child care needs. Over time, the program has made adjustments, but it remains very much focussed on the child rather than the family or community.

Another example of the "integrated" approach is the Integrated Child Development Service (ICDS) program in India. Launched in 1975, its target has been children 0-6 and pregnant and lactating women living in "poverty pockets": urban slums, tribal areas, and rural areas. Its full range of program elements includes supplementary nutrition; immunization; health checkup and referral service; and nonformal preschool education for children aged 3-6. In contrast to the ICBF program in Colombia, women were specifically included as a target group, to be provided with nutrition and health education and functional literacy (a part of the program that was later discontinued). Although the program is aimed at the poorest families, only children 3 years or older are expected to attend the preschool education center, from which they are expected to be taken home after half-a-day, presumably by the mothers. It is assumed that the mother is available to care for the child below 3 years of age. The mother is the target and focus for health and nutrition education. In short, the program is built around the mother as housewife, without much thought to child care needs of working mothers. The ICDS program has shown some positive effects on nutritional status and health of participating children (Tandon 1986). However, another study of the ICDS program reports: "Often, children collect just before the food distribution and disperse after the meal. Preschool education for the 3-6 year olds it appears, is in itself a desultory affair, an activity that takes place while the food is being readied. Younger infants are usually brought in by older siblings, in the absence of the mother, to eat at the centre" (Swaminathan 1985).

Do child-centered programs meet the need? For many reasons, the child-centered programs we have sketched briefly do not seem to be meeting the needs of low-income working mothers and their children. One main reason is simply that coverage has been relatively low, particularly for low-income families, for rural women, and for women working in their homes. This point was illustrated dramatically for Latin American mothers interviewed in a 1979 study (OEF), none of whom had met her child care needs through a preschool program or an integrated center. In the Asian countries covered by that study, the situation was not much better. Only 1 percent of the 499 low-income women surveyed in urban Malaysia and none of the 279 surveyed urban and rural women in Sri Lanka reported using such facilities. Korea proved something of an exception, with 19.9 percent of the 141 children of poor rural women and 1.9 percent of the 158 children of poor urban women surveyed care for by child care facilities and/or preschools. Korea's day care center system was and is regulated by the government, and there, families sometimes favor them because they are seen as places of education as well as custodial care. However, most are in urban areas and have no provision for all-day care. Since 1979, the situation has improved considerably in many countries, but coverage is still low. Even in India where the ICDS represents an extraordinary commitment, only about 23 percent of the administrative areas are covered.

Even when child-centered programs are available, there are several major constraints to use, related to income, timing, and location. Fees may be required for admission, transportation, or

supplies and clothing, making them too costly for low-income families. Also, the hours of operation do not correspond with hours of work. Many child-centered programs are 3- or 4-hour programs that are not intended to free up mothers for work. Child-centered programs are usually located in living areas and are not near work sites. That means women do have to carry their children long distances to seek child care. However, locating care near the home means that mothers working outside the home cannot breastfeed. In a sample of Bogotá working women, for instance, child care centers were so far from the place of work that many mothers used their state-regulated breastfeeding break to arrive later and leave earlier in the work day (Winikoff and Castle 1986). Unless a center is intended for use by working women, and few have been, the hours and location do not allow these women to breastfeed infants during the workday or to leave their preschool children, go to work, work a full shift, and return for the children (OEF 1979).

Women-Centered Child Care and Development Programs

Program evolution. Another program approach to child care and development has grown out of a concern with the needs of working women in the developing world. This approach has two main origins. First, and especially in the socialist countries of Asia, it has grown as part of a larger working class movement to protect the rights of workers, and has resulted in mandated child care for working women. More recently, child care has appeared in conjunction with women's programs.

Mandated child care for working women has for the most part been limited to children of mothers working in the urban formal sector, or "industrial" sector. That is in keeping with the inaccurate beliefs that Third World women's work is confined to this "visible" sector and that it is the only work that women do that is incompatible with the care of an infant or young child. This form of child care often requires companies employing a certain number of women to provide child care facilities at the worksite. The limit ranges from 50 women in India to 30 women in Costa Rica, Guatemala, and Venezuela, and 20 women in Chile and Honduras (Cairns 1984; Swaminathan 1985). The care is mandated usually only for the first 6 months of the child's life, although in some countries, such as India, the law covers children up to 6 years of age.

The number of mandated day care centers for children of working women is very small outside the socialist world. In the six-country study of Asia and Latin America (OEF 1979), for instance, the existence of industry-based care was not mentioned in any of the reports from the three Asian countries. Brazil, Peru, and the Dominican Republic were all found to have labor laws which require that establishments employing a certain number of women provide an appropriate place where their children may be cared for and where they may nurse their infants. However, none of these facilities were found in the Dominican Republic or in Peru and there were very few in Brazil.

Reasons for the existence of so few facilities include noncompliance with the law, which frequently carries an insignificant fine and is rarely enforced (Merrick and Schmink 1983). Also, it is said that employers sometimes hire just one female employee less than the number which has been established as the minimum requiring child care services (OEF 1979). A study that

interviewed employers and employees in six countries (Cyprus, Ghana, India, Mauritius, Nigeria, and Sri Lanka) about hiring women in formal sector jobs found an adequate labor supply but little demand. The reasons included the fact that it would cost more to provide maternity and nursing benefits to working mothers than to non-mothers or men, as well as the beliefs that mothers would be more frequently absent and have a higher turnover rate (Anker and Hein 1985). Similar employee concerns were found in a study of this form of day care in India (Swaminathan 1985). So the laws may serve only to further limit Third World women's access to formal sector jobs rather than to facilitate it. It should also be noted that poor working mothers are often ignorant of the laws which guarantee them certain benefits and they rarely participate in union activities. Their lack of demand for these child care services also contributes to low availability (OEF 1979).

It is interesting to note that even if all companies complied with the child care laws, coverage would be very small (Myers and Landers 1986). In Brazil, this figure has been quoted at about 10 percent of all children 0-5 years of age of mothers working in formal sector jobs (Rosemberg 1986).

Constraints to use. Even where this type of child care facility exists, utilization by mothers working in the formal sector is very low. There are two frequent and equally important reasons cited by the women themselves for this underutilization. The first is their location near or on worksite premises, which are frequently distant from home and which mean women have to carry their infants and young children considerable distances. The cost as well as the difficulty of travelling this way on public transportation is a major constraint to utilization. Also women often see their worksites as dangerous locations, with environmental hazards such as pollution, which they feel are unacceptable places for their children (OEF 1979; Schmink 1982; Swaminathan 1985).

The second stated reason for widespread underutilization is the mothers' concern for the quality of care provided for their children in these facilities. In Sri Lanka, for instance, heavily underutilized plantation creches show them to be poorly equipped and maintained and inappropriately staffed (Swaminathan 1985). A study in India cites uniformly poor conditions in industrial sector creches. It notes that finances were available, but that little thought had been given to their proper utilization. All facilities were missing organized child development activity (children sit idle and aimless all day), appropriate equipment (few or no toys), and appropriate interaction with an adult. Further reasons cited in this study for underutilization were neglect of children, harsh or rude behavior by attendants, and untrained staff. The poor quality felt by the mothers leads to underutilization. But few employers connect this underutilization with the quality or nature of their services provided; creches are seen as unnecessary by many employers precisely because they are underutilized. A vicious circle is perpetuated (Swaminathan 1985).

More recently, child care centers have begun to grow in conjunction with women's income-generating projects and programs—alongside training and credit and cooperative activities. These programs are young. They are usually custodial at best and are created without much consideration for the needs of the child. They may or may not include attention to health needs. A psychosocial component is seldom incorporated or is extremely weak. The most important

need is seen to be freeing up the mother to work. It is assumed that the child will benefit if the mother is able to improve her income position. There are exceptions to this myopic view, as we will see later on, but they are not widespread (Evans 1985).

Although the socialist Asian countries have made day care for the children of working women a part of their social and political philosophy, another study reports that they have yet to acknowledge the problems of working women. There are sharp urban/rural disparities in quality of care as well as in the number of facilities (Swaminathan 1985).

A cigarette factory in Rio de Janeiro has a child care center with a capacity of only 30 children for each shift, even though 1,600 women are employed there. Some Brazilian companies maintain contracts with private or public nurseries to comply with the law. One such private entity has contracts with 85 large businesses employing a total of 12,000 women. In 8 years of operation, it cared for only five children (OEF 1979).

Preference for "Family" Caretakers: Another Myth?

A number of studies in the Third World suggest that women overwhelmingly prefer to have their children cared for by a trusted relative or neighbor rather than by an institution (Rivera 1979; Engle 1980). This provides one explanation for the underutilization of both types of child care facilities. It also provides a rationalization to some for not providing child care centers. But the issue is not so simple. Preferences may be a reflection of the lack of acceptable alternatives rather than a confirmation of contentment with family caretaker arrangements.

The six-country study of Asia and Latin America to which we have made frequent reference (OEF 1979) illustrates the importance of providing adequate care. Most of the women in that study believed that persons other than the family are not particularly capable or motivated to provide quality child care. However, it was found that in areas where families are aware of the existence of child care facilities which offer child care, they were anxious to have access to such services.

It is reported that in a few places served by the ICDS Anganwadi in India, the program has been obliged to act as a day care center, keeping the child while the mother is at work in the fields, and that in many others, mothers are pressing for such a service (Swaminathan 1985). In a study in rural Thailand, rural women agricultural workers were asked whether they wanted child care facilities and whether these should be provided year-round or only in certain months. A clear majority wanted facilities during the times of their greatest agricultural responsibilities during rice planting and harvesting. In the village where there was more intensive year-round cultivation of crops, the women expressed a desire for year-round child-care facilities (Palmer, Subhadhira, and Grisanaputi 1983).

Among the surveyed population in Korea, for example, for whom preschools are a slightly more common phenomenon, parents cited such facilities as being the only child care arrangement which is as acceptable as using grandparents. In the Brazilian study, none of the mothers currently had children in a child care facility (there is at least one center in the community), but

32.5 percent suggested such child care centers as an acceptable arrangement for meeting child care needs. In urban Malaysia, (where 1 percent of the surveyed families used child care facilities), an average of 30 percent of both men and women felt that teachers, and specially trained women, should be the caretakers (OEF 1979).

What Kind of Child Care Facilities Do Poor Working Women Prefer?

A study of child care needs in Latin America and Asia showed that in "either/or" situations, families prefer to send children 3-5 years of age rather than children aged 0-3to child care centers. This is because parents give high value to activities that prepare children for entering the formal school system. In fact, many feel the greatest advantage of child care facilities is a pre-school education opportunity. They recognize that intellectual stimulation is not usually available at home for their children while in the care of older siblings or other family members (OEF 1979).

Also, one of the most important characteristics of a successful child care program is felt by the parents to be its community basis, both in terms of location and participation (OEF 1979; Schmink 1982). In the Dominican Republic, the overwhelming majority of women (90%) preferred neighborhood locations (as opposed to the workplace) for day care centers in order to avoid transportation problems. The same preference has been expressed by working women in several other developing countries, including India, Colombia, and Brazil (OEF 1979; Rivera 1979; Schmink 1982; Swaminathan 1985), although these studies have not indicated the type of work in which these mothers are engaged.

In brief, programs of child care and development have expanded in recent years, but often without the needed attention to the intersecting needs of the women and children from the poor families these programs should serve. The options available have often been too expensive, of poor quality, or organized without adequate attention to location and timing.

Supporting the Integration of Women's Productive and Reproductive Roles: Child Care and Development Program Recommendations

The exploration of the relationships among women's traditional tasks of caring and feeding infants and young children and their increasing obligations as economic providers for their families suggests a vast and differentiated need for child care, which is not being met by many existing child care and development arrangements. A major weakness in child care programs as they try to respond to that need is their unwillingness to let go of the myth of the mother as housewife and to accept that the neediest families are those in which the mother is working. The costs for poor women can be high: continuing poor health and nutritional status for themselves and their children; high dependence on child labor to the detriment of schooling; and reduced income-earning opportunities.

As a way of contributing toward the acceptance of the reality of the working conditions among these poor women, the next section presents a range of child care options. We will cite examples

of existing programs that try to reconcile child care needs and the characteristics of women's work in different sectors, and in both rural and urban areas. The following section then makes suggestions for the introduction of specific maternal and child health and nutrition technologies within the child care and development program setting.

Our working definition of a "child care and development program:" a multifacted system of care for infants and preschool age children living in poverty that may include nutrition and health, education including psychosocial and cognitive development, and custodial care, which is responsive to the child's social, economic, and cultural context and which is usually provided in the absence of the mother who is involved in income-earning activities for cash or for kind, inside or outside the home. It can be provided by other family members, such as older siblings or grandmothers, as well as by trained para-professionals and professionals, and can take place within a home, a neighborhood (in children's centers, including preschools; adult/community centers; religious centers) and at the mother's workplace in both rural and urban informal sectors, near cooperatives and construction sites, and in the urban formal sector near factories.

Maximizing Women's Economic Opportunities

In our exploration of the strategies and child care patterns adopted by low-income working women, we have suggested that some jobs are more compatible with child care than others. Although we will distinguish rural and urban, and informal from formal sectors, we continue to feel that the crucial differences lie more in the nature of the work itself, the availability and capacities of nonparental caretakers, and the distance of the workplace from home. Therefore, child care arrangements have to consider the different type of work that women perform, focusing closely on the conditions of work, hours and scheduling of work, and distance from the home to the workplace. Needs and responses will vary tremendously from country to country, from rural to urban areas, and from village to village; no single design can be appropriate for all situations.

■ IN RURAL AREAS: IRREGULAR WAGE LABOR

Distance of the workplace from established villages can be a constraint for poor women working in rural areas as irregular agricultural wage laborers on farms and as irregular nonagricultural wage laborers in programs such as stonebreaking for roads or building ditches. Both types of work, while usually performed at a temporary fixed location, can require travel of considerable distances from established villages as well as long hours of work, making child care, particularly breastfeeding, difficult, if not impossible. These women are often landless, heads of households, and at the lowest poverty level as a result of male migration to urban areas in search of wage work, which means their burdens at home are also particularly heavy. Also their work is usually intermittent and/or seasonal, requiring short periods of very time- and labor-intensive activity. Others are migrant workers without a home-base to return to, living in temporary shelters at the edge of construction sites and labor camps for one month or several months, and then moving on to seek work at another site, usually on foot. Theirs is a life of constant movement in settlements without sanitation, water facilities, schools, or health clinics (Commonwealth Secretariat 1984). For these women and their infants and young children, a flexible approach to child care provision

is needed, because of the daily and seasonal time demands of their work. Also, they are not a stable workforce with a fixed place of work.

One example of a child care program that has attempted to accommodate to these daily and/or seasonal child care needs near the worksites of rural women agricultural workers comes from Senegal. There, women who were part of a center proposed a program to care for children while they and their older daughters were in the fields at the time of rice planting. A rotational arrangement was set up, and care provided from eight in the morning until seven at night, with contributions made toward feeding either in money or in kind. The program became a basis for other nutrition, health, and community activities (Evans 1986) (see the Appendix for further description).

■ IN RURAL AREAS: FAMILY FARMS AND COOPERATIVES

Small family farms provide another form of informal rural work for poor women (Commonwealth Secretariat 1984). This type of work, while also intermittent and seasonal and requiring short periods of very time- and labor-intensive work, is usually home-based or close to the village at a permanent fixed location. In addition to perhaps the provision of a temporary creche (if work is distant from the house) during times of peak labor demand, another approach could be community day care. Useful examples of community day care come from Kenya, and Zimbabwe (see the Appendix). In these cases, the child care and development programs are set in fixed locations in the community and employ community members who are provided with some training. This type of center serves women who work year-round as permanent wage laborers at a fixed location or those principally engaged in home production.

Rural cooperatives lend themselves to establishing child care centers. Because the control lies with the users of the centers, hours and other arrangements can more easily be fit to work schedules. Examples come from the agricultural cooperatives of the green zones around Maputo in Mozambique (UNICEF 1986b) and from Ethiopia where the Melka Oba Producers Cooperative added child care so that women could participate fully in economic activities of the cooperative (Suetsugu 1986). In the Ethiopian case, work credit was given for the time necessary to bring children to the child care center and/or for breastfeeding.

■ IN URBAN AREAS: WOMEN'S INFORMAL SECTOR WORK

Poor women working in the informal urban sector have child care needs similar to those of poor rural women, because they also work for irregular periods, in jobs that are low in productivity and long in hours both outside the home as petty traders or domestic servants, and inside the home doing piecemeal work for others. Their work outside the home, which often has no fixed location or a location unsuitable for children, such as a marketplace, may take place at a great distance from home and requires long hours. Their work inside the home may not be a safe place for children because of noxious fumes or dangerous machinery (Commonwealth Secretariat 1984). Again, an informal, flexible approach to day care provision is necessary.

There are several examples of child care arrangements at, or close to, the place of work that respond to the particular needs of a group of low-income working women and their children in

urban areas. The Accra Market Women's Association in Ghana established a child care facility at the marketplace which was near enough that breastfeeding was possible. Health care and nutrition were provided on a regular basis (UNICEF 1982). Another example, responding in a flexible way to the shifting needs dictated by the construction industry, is that of the mobile creche, pioneered in India. In this case, childcare is brought to temporary construction worksites. Again, the program includes health care and nutritional components. Early stimulation and education is also an important part of the program. Mobile creches employ para-professional workers, trained on the job, use low-cost equipment and culturally-familiar materials, and attend to children from age 0 to age 12. Construction workers either come to the creche to breastfeed or the baby is taken to them on the site.

Neighborhood child care in a community centre or in a home day care arrangement might be suitable, with flexible hours. In such arrangements, neighborhood caregivers usually are not formally trained. The organization of care may be based on already existing reciprocity (kin or non-kin) networks. The child care arrangement may be informal and private, without any connection to a formal network of providers or services. Or, care can be formalized and linked to other services and supported with some training and on-site assistance for the caregivers. Payment for the service may be in kind or in money. It can be a "low-cost" option that is also "community-based." It is likely to build on existing local practices. Integration can be achieved through training and in the supportive services provided to caregivers. Day care responsibilities can even generate income, prestige, and self-confidence for a limited number of caregivers.

Instructive examples of home day care come from several places in Latin America. In a Venezuelan experiment that began in 1974 day care mothers, at least 18 years old, were paid (by the government and other mothers) to care for groups of five or six children under the age of 6 in their homes for 12 hours a day. Homes had to meet requirements for safety and hygiene. Training and supervision were provided. Unfortunately, costs were high. Other examples come from Colombia, Ecuador, and Brazil where costs of home day care were reduced. In all, para-professionals from the community took on the caretaker roles. Some support was provided from existing health services.

These examples, which are elaborated in the Appendix, illustrate the potential for responding to the child care needs of women working in the informal urban sector through a home day care service model. They also provoke questions about cost, quality, effectiveness, scale and sustainability.

■ IN URBAN AREAS: WOMEN'S FORMAL SECTOR WORK

Although work by women within the formal wage sector often involves poor working conditions, long and irregular hours including shift and night work, and travelling long distances to work, the permanent location of work makes a more formal approach to child care provision possible. In the previous section, we suggested that such child care arrangements were infrequent (except in socialist countries), often of poor quality, and sometimes underutilized, in part because of the location so far from home. We also mentioned an alternative approach—establishing child care and development centers in the neighborhoods from which workers come. This approach is seldom feasible for a large employer who draws from many neighborhoods and must, therefore, be

established through local or national efforts. Because such arrangements work against direct involvement in child care (including breastfeeding), they should be backed by strong legislative support for working mothers providing for maternity leave with job protection, and some flexibility in working hours. Unfortunately, such supports can work against employment opportunities for women and are often disregarded.

Neighborhood centers can be highly formalized, as in the ICBF case described earlier or they may be less formal as in the Indian ICDS and the home day care examples already cited. When formal arrangements are supported, there is a particular need to look carefully at how each of the components of child care—health, feeding, stimulation, etc.—is being delivered.

Although we have written somewhat disparagingly about the role of formal "preschools" and their ability to respond to women's as well as children's needs, that option need not be discarded. However, preschools should be affordable (or subsidized), and organized with hours keyed to the working schedules of the mothers. Or, the program should make it easier for siblings to be caretakers. In several Southeast Asian countries where the rates of demographic growth have leveled off or declined and where available primary school places have approached 100 percent, spaces are now opening within primary schools and are being used for preschool programs. There are potential advantages to such an arrangement. It allows older siblings (who might otherwise be at home caring for their younger ones) to bring younger brothers and sisters to the preschool and to pick them up at the end of the primary school session. Proximity also makes easier the organization of child-to-child programs in which primary school children help out periodically in the preschools, as a means of learning methods of child care and development to be applied at home and in later life.

We turn now to examine more closely ways in which these various child care programs might serve to improve the use of health and nutrition technologies.

Several cautions should be added when considering support for a home day care system. First, unless training and supervision are relatively good, quality can be very poor. Conditions can be unsafe and attention minimal. That possibility is exacerbated if the system is not linked to other support services. Second, home day care can be relatively costly, depending on how it is set up. If low costs are obtained by exploiting women caregivers or skimping on support services, unhappy caregivers, low quality service and a purely custodial program may be the result. Third, under some circumstances, a decision to provide home day care can allow governments to avoid making more permanent commitments to the institutionalized day care in which case gains may disappear quickly with a change of government. Finally, home day care is often rationalized in terms of the family-like atmosphere it provides for a child. However, caregiving in a home by someone who is not a child's mother requires some management skills as well as parenting skills. (Rosemberg 1986) These cautions notwithstanding, home day care is a potentially important mode of responding to the developmental needs of young children and provides a viable alternative to formal child care centers, particularly for children ages 0 to 3.

At the same time, the direct association with primary schools can easily bias the content of early childhood programs toward a regimented extension downward of schooling that does not allow

exploration or learning through play but, rather, imposes rigid forms and ideas upon preschool children. There is also less likelihood that the community will be involved, that parents feel they can turn over their responsibility for many child care components, particularly the school-related ones.

Maximizing the Use of Maternal and Child Health and Nutrition Technologies

Women already form the broad base of the primary heath care delivery system as providers of family self-care, but their additional time and labor-and income-are needed to implement the newer strategies found in the technologies and practices defined by the "child survival revolution." In the case of oral rehydration, for instance, water may need to be boiled for oral rehydration mixtures, which may require a 6-mile walk for water and/or the time and work of gathering additional firewood or money to purchase fuel. Money may also be needed to buy ingredients for home-prepared oral rehydration mixtures or for purchase of packaged oral rehydration salts. Several feedings of the solution per hour must be administered to a dehydrated child. Or, trips to the nearest clinic for prenatal care, the weighing of babies, and child immunizations may be a 3-hour walk away and then a long wait in line, costing several hours in a single day. Fees for services may be required. Or, at the time of weaning, special weaning foods need to be bought and/or prepared and require frequent feeding. Poor women's lack of access to modern, energy-efficient and labor-saving technologies for home production, particularly food preparation, makes the provision of weaning foods a time- and labor-intensive activity. For the poor women in the developing world who are already struggling with the daily time and labor demands of balancing their necessary productive activities with their responsibilities as mothers to maintain the family's survival, these additional demands on their time, labor, and income may be too serious a constraint. The poor health of the women themselves, an often neglected factor in discussions of implementing child health and nutrition technologies, may also be a constraint. All of this means that any attempts to improve the health and nutritional status of poor women and their children must consider these serious time, location, and income constraints among poor working women.

Our previous discussion of child care options suggests that child care and development programs can now be considered, in many locations, as a legitimate health and nutrition activity-as an entry point for the direct delivery of health and nutrition technologies. If the option available and chosen by working women is the extended family or if an informal social network is used, then education and delivery efforts must take those choices into account. Programs must not only be directed to mothers but to other caretakers as well. The child care options we would like to emphasize, however, are those in which children are grouped in some kind of regularized day care or preschool arrangement. In such settings, children and mothers are a readily accessible group. The link between child care and the health sector can be made relatively easily, facilitating direct health care and referral of both groups directly to health care services. It also provides a channel of communication between health services and families. This communication is important, since the evidence is clear that many of the communities where the need for child care is high also show a low utilization of health services and a correspondingly high incidence of maternal and child morbidity and mortality (WHO 1981).

Locating these technologies within child care and development centers or neighborhood arrangements that have already been designed to overcome the time, location, and income constraints to use by poor working mothers could contribute to better use of the child survival and development strategies.

Time: These child care arrangements recognize the daily, seasonal, intermittent, and irregular dimension of women's work both inside and outside the home with flexible hours and services during times of peak labor demands.

Location: These child care arrangements are located in homes, neighborhoods, and worksites according to the distance and structure of women's work-to facilitate breastfeeding and to help working women avoid the time costs in transportation as well as the difficulties and financial costs of transporting infants and young children long distances.

Income: The income constraint has been addressed indirectly by these child care and development centers by lessening women's time demands associated with child care so that they can increase their employment options. Direct income effects are also provided by training and employing women in these centers as child care supervisors and managers, health workers, and food preparers. The income earned can help offset some of the financial costs that these mothers face in implementing the child health and nutrition strategies.

■ CHILD HEALTH AND NUTRITION

Many child care and development programs already include some child health and nutrition activities. In addition to providing a place for working mothers to breastfeed, there is sometimes provision of food for preschool age children such as snacks and lunches. Growth charts are sometimes kept and screening is done to detect physical and psychosocial problems that may occur. Immunization shots are sometimes provided. Instruction in the preparation of oral rehydration solutions and in the production and provision of specially prepared weaning foods may be given. A referral system to health care services may be in place. But given the poor level of health and nutrition among these children, a more direct and concentrated effort to deliver these health and nutrition technologies could be made.

■ MATERNAL HEALTH AND NUTRITION

In addition to providing direct delivery of health and nutrition activities to infants and young children, it is also important to consider the health needs of women. The minimum services that could be provided within the child care and development program setting include:

- Nutritional assessment of women and nutritional supplementation for pregnant and lactating women who are malnourished or anemic.
- Prenatal care and monitoring with a good referral system to health care services.
- Tetanus immunization.
- Health and nutrition education, including environmental sanitation (waste disposal, latrine construction).

- Family planning information with a good referral system to health care services.

Several examples will illustrate child care arrangements that are also serving health needs.

The Melka Oba child care and development program among fruitgrowing cooperative members in Kenya cited earlier appears to be successfully meeting the child care needs of low income agricultural rural women while at the same time addressing the basic maternal and child health needs in an area where maternal, infant and child mortality is high.

In Mauritius, the Family Planning Association set up a day care center next door to their own facilities because the community expressed a need for such a center and the existing programs were too expensive for poor women. The center provides care for 40 children aged 3-5 years. When mothers bring their children to the child care center, they are encouraged to participate in meetings held at the family planning clinic. To some extent, the center has also begun to address the need for women to engage in income-earning activities. The center provides on-the-job training for young women interested in working in early childhood programs. After the training program has been completed, these women can establish their own child care center. The Mauritius Women's Self-Help Association has plans to set up similar centers in other towns (Evans and Myers, 1985).

An example from Malaysia illustrates another way in which a part of the national health sector has been able to meet their goals by establishing programs for women and children which fall outside the traditional health sector. The Malaysia project has been developed within the squatter settlements of Kuala Lumpur. The project was begun by health sector personnel interested in establishing primary health care centers within districts or in the settlements. Meetings with community members to determine their needs and priorities, however, showed that health care was not a priority. The community was most interested in having a child care system for young children and in creating income earning activities for women. So rather than building a health center, workers established a preschool and a women's income earning project. After these were well- established, primary health care was introduced within the settings and well accepted. The project is now used as a national program model and is being implemented in 13 settlements (Evans and Myers 1985).

OTHER NUTRITION-RELATED EFFORTS

Too often nutrition intervention is associated only with food supplementation. There are, however, a variety of less common nutrition programs that can be self-sustaining, cost-effective, and even income-earning activities with which child care might be associated. For example, in some food-for-work schemes and community kitchens a child care component is built in.

The World Food Program supports a number of food-for-work projects that employ large numbers of women. The major work of these relief schemes involves earth-moving work such as constructing dirt roads and embankments, and dredging rivers and fish tanks. Workers' payment is made in wheat rations. Many young women, including mothers of young children, participate in this heavy work. However, older needy women generally cannot because of the nature of the work. Young mothers in need of someone to take care of their children, and older women in need

of food and income, have devised a way to meet each other's needs. Groups of mothers engage the services of an older woman who goes to the work site to watch the young children there. Because the children are close, mothers are able to breastfeed and attend to special needs as necessary. In payment, the working mothers give a portion of their wheat ration to the older woman who keeps some for her own consumption and sells the remainder to earn cash for other needs (OEF 1979).

In community kitchens, the mother who cooks receives a free meal and a small payment. Children pay a minimal price for the meal or contribute fuel for food used in preparation. One person is responsible for a larger number of children, freeing up the time of individual mothers. The mother preparing the food earns cash income and the other mothers are free for cash earning activities, which should override the small cost of prepared food (Huffman 1986). Such an approach fits easily within the child care and development setting.

The provision of special weaning foods, snacks, or lunches for children or food supplements for pregnant and lactating women is an important dimension of maternal and child nutrition strategies, given the low income levels within these families. Weaning foods produced locally by village groups such as mothers' clubs or cooperatives have also provided the triple benefits of improving child nutrition, reducing time expenditures of women in food preparation, and provided income for villagers involved in the food production (Huffman 1986).

The options that have been discussed above can be built on, or around informal support systems that already exist. In order to do that, however, it is necessary to have a much better picture of what these networks are and how they function than we have for most locations.

CHILD-TO-CHILD PROGRAMS

While support is needed from working mothers if maternal and child care needs are to be adequately met through child care and development programs, it is also important to recognise and support the traditional child care responsibilities of adolescent girls and older women in their role as "substitute" mothers. Strategies such as growth monitoring, oral rehydration therapy, and home prepared weaning foods can be implemented by these "mother substitutes" and within the child care and development setting there are some good examples of this kind of delivery of health and nutrition technologies through the Child-to-child program model.

The Child-to-child program is aimed at giving older children the skills and knowledge needed to improve the health and nutritional status of their younger siblings and their family. The program was conceived during the International Year of the Child (1979), by the Institute of Education in London and the Tropical Child Health Unit of the Institute of Child Health, University of London, and has taken hold in more than 50 developing countries. The idea behind the program is that elementary school-aged children can be taught basic health and nutrition care that they can provide to their younger siblings and pass the same ideas on within the family or community environment. In various programs children have been taught to identify malnutrition by taking an arm measurement and to make the water, salt and sugar solution used to combat dehydration. They are also taught about safety and how to prevent disease and other health problems. Examples are presented briefly in the Appendix.

Health and nutrition education programs also have been directed to parent and family members in many ways and in many areas: to adolescents, soon to become parents, in Trinidad, and to grandparents in Jamaica, where a major role in caregiving is often shouldered by grandparents. This particular strategy should receive particular consideration because it can be directed toward enhancing the development of children in the earliest months and years of life, affords an opportunity to integrate development messages from health, nutrition, and education, continues to place the primary emphasis for development with the parents and extended family of a child, and offers the possibility of effective large scale application (Myers and Landers 1986).

The foregoing discussion suggests at least two main conclusions. First, the potential of using both informal and formal systems of child care as vehicles for improving the understanding and use of health and nutrition technologies has not been and needs to be realized. Second, the fact that many mothers must work and that mothers are not the sole caretakers of their children, makes it imperative that health systems direct their attention to alternate caretakers as well as to mothers.

A Special Note About Child Care as an Economic Activity

With the growth of alternative ways to meet the demand for day care, many women are being called upon to assume new caretaker roles, in community and home daycare centers. For some, child care becomes itself an income-earning activity. These women become important figures in the use of health and nutrition technologies.

Unfortunately, the same economic pressures that push programs toward low-cost models of child care that poor women can afford and will therefore use, tend to place childcare among the jobs that are low in pay, are time- and labor-intensive, and are considered to require little or no training. Therefore, although these programs can, and do, provide crucial support to the income-earning activities of many women by taking into account poor women's daily and seasonal work schedules and work locations, they do so in part by drawing on the good will of (some would say by exploiting) those (mostly) women who do the caretaking. And, they do so at the risk of throwing away the potential for improved delivery of health and nutrition technologies.

Treating the job of caring for children other than one's own as a low-paid, unskilled activity draws upon and reinforces the myth of mothers as housewives who do not need to earn income. But taking care of others' children is not the same as taking care of one's own. Taking care of 8 or 10 children is much more demanding than caring for 2 or even 5. Support and additional training are needed.

When women take on the job of childcare, the additional responsibility they incur, including responsibility for the health and nutritional status of their charges, requires recognition of their need for training in the use of appropriate technologies. It also requires recognition of their need for income instead of expecting them to volunteer their time and labor. It requires that employment as a child care worker be judged on its own merits as a job just as other forms of employment are judged. Does the job provide a proper salary, benefits, a degree of security, training, the possibility of moving to a better position, the opportunity for social and work-related

exchanges with other workers, etc.? This viewpoint is rarely held but the issue needs to be confronted in the search for new ways to support the need and right of poor women to work.

The ICDS program in India illustrates the potential for employment generation among women, the potential for delivering child care technology through an expanding system of child care and development, and a program dilemma. The ICDS system now employs approximately 200,000 women as Anganwadi workers or helpers, most of whom were previously at home engaged in non-remunerative household tasks. These women receive three months initial training, periodic refresher courses, and a small "gratuity" each month for nine months, but no additional benefits. For urban women and the more educated, the ICDS benefits are minimal and there is a move to unionize to pressure for higher pay and for benefits. Ironically, higher pay could restrict expansion of the program and of employment and training opportunities or require introduction of a fee leaving out women who most need the ICDS.

Experience is beginning to suggest that if child care programs are to be effective on a sustained basis, including as extensions of health care delivery, they must recognize child care as a form of "work" and, over the long haul, provide adequate payment for participation rather than depend on volunteer time and labor. This issue cannot be further elaborated in this paper but must be in other discussions of women's work and child care.

For rural women, even the small payment and training is seen as valuable. An ironic indicator of perceived value is an increase in the "bride price" a woman can command if she is an ICDS worker.

Concluding Notes and Suggestions

A Continuing Need for Redefinition of Concepts and Measures

Considerable progress has been made over the last two decades toward understanding how women's income earning activities and household responsibilities relate to each other and influence the welfare of household members, especially young children. However, problems of definition and measurement reflecting both culture-bound misassumptions and the limitations of linear quantitative methods have hampered analysis and are only slowly being overcome. As they are overcome, the questions asked are being continuously and constructively redefined. Oversimplification and facile generalization are giving way to more complex and situation-specific answers.

Redefining the productive role of women to include non-remunerative work and home production, and turning to analysis of time as a scarce resource has helped to open the analysis of women's multiple roles and to describe the burdensome choices faced by poor women. Broadening analyses to include the changing contributions to work and child care of all family members, including young children, as they affect various aspects of family welfare also represents an advance. So does the shift to looking at the internal dynamics of households as they affect

decisions and control over income, the use of time, and the use of particular health and nutrition technologies.

But these advances are not yet commonly accepted. Much of the research work dealing with women's work and child welfare in the Third World continues to follow the misassumptions sketched at the outset of the paper—viewing women only as housewives, assuming they are the sole caretakers and overlooking the fact that household members may not share the same preferences and priorities as they approach decisions about the best use of resources.

Further clarification of the main concepts will be required in order to unravel further how decisions about women's work and household responsibilities relate to decisions about the use of health and nutrition technologies and their influence on the welfare of household members. For instance, both the concepts of women's work and of childcare need further specification.

Women's Work. The slow pace of change in the definition of what researchers have used in their analyses of "work" by women is illustrated in an excellent review by Leslie (1985). The majority of the 41 studies reviewed, published between 1972 and 1985, simply compared "working" vs "non-working" mothers. Many separated women's work as "in the home" or "away from home." Some studies depended on a link to specific occupations or on whether or not the work was for pay. Often it was unclear whether working women who were not earning income were included as working mothers or not (Leslie 1985).

To analyze properly the potential tradeoffs of time and money facing women as these relate to use of health and nutrition technologies, greater specification of work situations is required—in terms of the characteristics of particular jobs. In addition to characterizing work as paid or unpaid, it is important to know the amount paid. In addition to the distinction between work at home and outside, one should know the distance from home—in travel time, and inconvenience. Also, what hours are worked? How flexible is the job in terms of the ease of taking time off? Do child care facilities come with the work and are there other benefits? These and other questions about the nature of the particular work will influence the possible time/income trade-off.

Child Care. To understand the potential use of health and nutrition technologies for the benefit of young children requires an understanding of how child care occurs and who does it. That exploration depends on how child care is conceptualized. In this paper we have discussed the myth of the mother as the sole caretaker and the need to open up analysis to look at caretakers other than the mother. Accepting the idea of multiple caretakers changes notions of what constitutes "compatibility." We have also set out various components of caretaking that may need to be treated separately in analyses, each of which has a range of possible technologies associated with it. And, we have urged that the concept of care be extended beyond custodial care to include attention to fostering mental and social development as well.

In tandem with the limiting assumption that a woman's work must be outside the home, there is a tendency to assume that child care must occur inside the home. Hence the notion of a direct trade-off and the implication that health and nutrition technologies, if they are to have an effect, must be decided upon and managed by mothers or other caregivers within the household. This is

at best a partial view. Increasingly, child care occurs outside the home and in some kind of institutionalized arrangement. That is particularly true in socialist countries but the change is occurring the world over, particularly in urban areas. Including in analyses the available childcare outside the home, whether naturally occurring through social support networks or made available through institutionalized care, also changes notions about compatibility, helping to dissolve the idea of a straightforward trade-off between productive and reproductive roles. We have argued also that these child care options open opportunities for direct delivery of health and nutrition technologies that complement both household use and delivery through health services. They can be used for education of parents as well.

The concept of child care should also take into account the age of the child to be cared for. Researchers have tended to aggregate children from zero to six years of age, rather than using shorter age intervals (e.g., 2-3 years, 3-6 years), which have important developmental as well as health significance. In a child's first year of life, it tends to be more dependent on the mother's physical health for nutritional status. In the second year of life, children normally begin to walk, making them more mobile before they have developed their ability to perceive and respond appropriately to danger. This is when children are more prone to accidents at the same time that they need the frequent feeding of specially prepared weaning foods. By age 3, children are developing language abilities and better coordination, making them more capable of protecting themselves from environmental danger and perhaps making nonparental caretaking patterns less crucial to child health and development (Engle 1986a, 1986b).

Instead of studying caretaking patterns by age, children could be grouped by developmental stages: (1) walking/non-walking, which normally occurs between the ages of 8 months and 15 months; (2) at the point in which language, and therefore instruction, begins to be internalized so that children's behavior can be governed by rules or guidelines in the absence of immediate supervision, which normally occurs between the ages of 2-1/2 and 3; and (3) at the age of weaning (Engle, 1986a).

Searching for a Framework

Setting out an operational model that will allow adequate analysis of women's time spent earning income (allowing possible purchase of important health and nutrition inputs) and time spent directly using nutrition and health-related technologies by caretakers will not be an easy task. In our review, one of the most appealing frameworks for analysis we encountered is that suggested by Bennett. (1983)

Bennett's model illustrates both the advances in thinking we have noted earlier and the need to keep at the task. In defining relationships, Bennett centers her analysis on the internal dynamics of the family. She incorporates all household members into the analysis. She defines as her outcome measures the individual health and nutritional status of all household members. She allows for multiple caretaking and for home production and she avoids the assumption that the household has a single utility function by looking separately at the per person household earnings and expenditures. Beginning inside the household allows exploration of the relationship between income earning and the ability to influence how household resources, including time, are used. It

provokes questions about who makes decisions and about the social and gender-related motivations of the decision-makers.

In Bennett's model the way in which "mediating variables" will be measured and handled in an analysis becomes crucial. It is not immediately clear, for example, how the "knowledge" variable should be measured or how it may interact with income. And, other relationships might be postulated. For instance, does knowledge influence efficiency of time used and also the quality of care. Should not macro-economic conditions be shown as having a direct effect on nutritional status, in addition to the effects that operate through the time allocation among tasks? As one thinks across households and to different kinds of work, there will be a need for differentiating the kind of work activity that generates the income to be distributed.

Looked at out of context, as we are doing, the model has a static linear quality to it. Thus, although Bennett is very conscious of the need for attention to women's health and energy level requirements, the possible feedback of improved health and nutritional status on how time is allocated is not incorporated. We do not know how overlapping time use (e.g., simultaneously knitting, breastfeeding, and talking with a friend) will be handled.

In brief, despite major advances, conceptual and measurement challenges continue as we try to understand the reality of the daily lives of women in poverty and their families in the developing world.

Research Questions and Gaps

The previous discussions suggest a range of research problems. We have selected four key areas for emphasis.

Intra-household studies. Among studies that have recognized differential priorities and differential control over resources among household members, too few have linked these findings to greater income expenditure on food and other health needs for the family and from there, to improved health and nutritional status (Bennett 1984; Carloni 1984). Where men's and women's responsibilities for family food and health care are separate, women's control of income can be crucial. But is the assumption of maternal altruism justified? Do increases in maternal income actually lead to increased allocation for the child? Much has been inferred about child nutrition from changes in the control of income by women, but anthropometric data on child health and nutrition is rarely available in these same studies. It needs to be gathered and more closely linked to income pooling, to gender-specific priorities for income expenditures, and to gender-specific economic obligations within the household, with regard to support for child feeding and health care. Also, more research is needed on the factors affecting women's "bargaining power." How does women's productive work (domestic activities vs. subsistence agricultural production vs. market economy) affect their input into the various areas of household decision-making? Can it actually change traditional gender ideology?

Examining income and time trade-offs of a woman's work status. This gap, which was evident from Leslie's recent review (1985) is surprising considering that the two major effects of

women's work on a child's nutritional status are hypothesized to be the positive income effect and the negative time effect. To research this area it is important, at a minimum, to ask. "What is the effect on family welfare of work commanding different wage levels and requiring different amounts of time? The potential importance of this point can be illustrated by a study in Kerala (Kumar 1978), in which significantly lower levels of child nutrition were more apparent among children of the women who were the sole earners in the family or workers in unskilled field labor, both situations of low productivity and low wages. While they could not relieve the income constraint for which they entered the labor force, they added on a time constraint as well (Kumar 1978). Similarly, Soekirman (1985) in Indonesia found that the negative effect of mother's employment on child nutritional status is only significant if the mother works more than 40 hours a week and earns less than the minimum wage. If a mother works more than 40 hours but is better paid, the effect was not significant. Another study in an urban area of Guatemala found that the negative effect for children's nutritional status of mother's work was limited to domestic workers, who worked long hours at very unskilled, poorly paid labor (Engle, Pederson, and Smidt 1986).

Some studies have taken the age of the child into account when addressing the income and time trade-off associated with the mother's work status. Haggerty (1977) found that women who work at home have the least malnourished children in the 0-11 month age group and the most malnourished children in the 12-23 month age group. Similarly, Engle (1986b) in urban Guatemala found that children of women who did not work had better nutritional status than children whose mothers worked, but only during the child's first year of life. The opposite was true during the child's second year. Working mothers had better nourished children than nonworking mothers. The underlying hypothesis is that during the first year of life the child is most dependent on the physical presence of the mother for nutritional status than on environmental factors such as income. As the child grows older, the positive income effect of working outside the home outweighs the greater child care time mothers can provide by being at home (Leslie, 1985). If this hypothesis holds in a wider variety of settings, it has very important implications for policy.

The role of non-maternal caretakers. Although nonparental caretaking of children is the norm, not the exception, in the Third World, especially for children of poor working women, few studies have examined the effects of this caretaking pattern on children's welfare. Very little is known about the growth and developmental effects on young children from poor families, of care by older siblings and other alternative caretakers to the mother.

In a review of cross-cultural evidence on sibling caretaking by Weisner and Gallimore (1977), the general conclusion reached was that there is no evidence that children necessarily suffer socially or developmentally when cared for in part by older children as opposed to the mother. Indeed, these authors suggest that aid or support to a mother from children could increase reported contentment with the mother role and could reduce the stress mothers might feel if they have to work and were the exclusive caretakers for extended periods. Also, caretaker diversity and skills for children could make their separation from the mother less stressful. While this work study discusses findings from 186 sampled societies, the research did not focus on families living in poverty.

The little research on sibling caretaking patterns within low-income households that has been done focuses on child health and nutritional effects. In a study of the nutritional effects of sibling caretaking on children of working mothers in urban and rural Guatemala, having an adult caretaker was associated with better nutritional status for infants, while having a sibling caretaker was associated with poorer nutritional status for two- and three-year olds (Engle 1986b). Similarly, another study of young children in rural India found that the younger the child caretaker, the more poorly their charge performed (Shah, Walimbe, and Dhole 1979).

Research is also scarce on the differential effects on child welfare of different types of caretakers. A grandmother, a 10-year old boy, and a 7-year old girl may all be available for child care tasks in a household. Who is given caretaking responsibility and for which tasks might have different effects, at least in part as a result of their knowledge of and ability to use available health and nutrition technologies. In a study of child care strategies of income-earning and home production mothers in rural and urban Guatemala, adult female relatives were chosen to care for infants, while siblings were given child care tasks for children one year or older (Engle 1996b).

There are, too, questions of effects on non-parental caretakers of assuming the caretaking tasks. One of the most obvious concerns expressed is the concern that girls are required to stay home from school in order to attend to younger siblings. With the gathering of fuel, animal care, food preparation, sibling care, and participation in family income-earning work as the primary purpose of children's activities within low-income families, the opportunity costs of schooling are greatest. Research has shown that under such circumstances, schooling, especially for girls, is more likely to be viewed as either too expensive or largely irrelevant to the daily survival needs of the family (Chamie 1983; Safilios-Rothschild 1980).

In Bombay, among children 6-11 years old, the two most important reasons for girls not attending school are domestic work responsibilities and the need to look after younger children. Similar data exists for San Salvador, Honduras, and Khartoum (Safilios-Rothschild 1982a, 1983). In urban and rural Guatemala, a study showed that girls were less likely to be enrolled in school if there was an infant or toddler in the home, regardless of the working status of the mother, and that this caused girls to enter school at a later age (Engle 1986b). Survey data from Belo Horizonte, Brazil, show that households headed by females in low-income groups were more likely to have no children registered in school, and much more likely to cite financial problems as the reason for their children's absence than were male-headed households. They were also less likely to have their children in desired schools (Schmink 1982).

Child care strategies. Not unrelated to the above is the need to identify and describe much better than has been done in most settings, the informal child care strategies that poor women have developed and use. Once identified more clearly, one can ask what the effects are on the health, nutrition, and development of children. What, also, is the active demand and what is the potential demand for alternative child care arrangements? What role, in fact, do present child care programs play for poor working women and their children?

Research shows that within low-income households, three main factors influence school enrollment for children: the demand for child labor (competing household, child care, and

productive responsibilities); family size and composition (presence of other siblings and extended kin such as co-wives and older female relatives such as grandmothers and mothers-in-law to share work and child care); and income levels (to pay for the cost of suitable shoes, clothes, notebooks and pencils, and registration fees). Other factors include: age at marriage; premarital pregnancy; mother's education; parents' negative attitude toward daughter's education; shortage of schools for girls in sex-segregated countries; scarcity of female school teachers, and the scarcity of schools in rural areas within reasonable distance from home combined with lack of transportation (Chamie 1983; Safilias-Rothschild 1982a, 1982b).

Program Evaluation

There are, at present, a host of programs that fall under the heading of "child survival and development" programs. These are, typically, health and/or nutrition programs built around such technologies as immunization, oral rehydration, weight monitoring, or preschool education. In addition to evaluating these programs to see what their effect is on infant mortality rates, morbidity, nutritional status, and psychosocial development, the programs should be evaluated for their effect on women. Do the demands of these technologies require time of caretakers that simply is not available—to bring a child to the primary health care center or to administer oral rehydration therapy, for instance? Can the reductions in morbidity and malnutrition be translated into time savings for mothers and other caretakers? Does saving lives of children who would previously have died place new and additional burdens on women as they cope with increased levels of disability? Assumptions are made about these outcomes, but the evidence is thin.

Women-in-development programs. Most WID programs are evaluated strictly in terms of their impact on the lives of the women involved. An assumption is made that the benefits from these programs will improve the welfare of other family members, particularly young children. Does that in fact happen? Under what circumstances? Do the childcare arrangements that accompany WID programs do their custodial job effectively? Do they provide a developmental component as well?

Child care programs. Do programs of child care actually relieve burdens for working women? Are hours and locations set to correspond to the needs of working women? Do child care programs that bring children together actually result in higher levels of infection than would have been the case with an alternative arrangement, again costing women time away from work, or restricting the kind of employment they can take because a high degree of flexibility is required?

The growing need and both real and latent demand for support of programs of child care and development requires more careful evaluation of present experiments and large-scale programs. Those evaluations should be done with both women and children in mind. The goal is to facilitate working opportunities for women and to facilitate use of health, nutrition, and other technologies to the benefit of both women and children.

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Appendix—Rural Examples

Senegal

In rural Senegal, women who were part of children's center proposed, in 1962, to those operating the centers that a program be started where children could be cared for while women worked in the fields. The purpose of the children's center, as proposed by the women, was "to resolve the problem of caring for their young children while they and their older daughters undertook the arduous task of planting out the rice." Entrusting the children to older sisters who were still too small to work in the fields was a solution that did not provide sufficient guarantees of safety; and leaving them on the edge of the rice fields meant they would be exposed to all the vagaries of the climate as well as to poisonous snakes. The animatrices agreed to establish the day care program as long as the women's center did not have to pay for the program. Mothers rotated responsibility for taking care of the children and took responsibility for planting and extending a community garden from which the children could be fed while they were in the center. The first center in 1962 operated for two and one-half months during the most difficult part of the agricultural season when the rice crop is transplanted. Since that time, the day care centers have spread in the administrative district so that they serve several thousand children. The centers are open from 8:00 am until 7:00 pm and generally operate from one to three months during the year when the rice crop is transplanted. Parents pay a fee for the program in the form of money, rice, oil, or dried fish.

The centers operate under the Department of Animation Rurale, Promotion Humaine. Community developers within the Department quickly saw that these centers could be used as a base from which a variety of social services could be offered. They began to offer training to community volunteers, adult education courses in nutrition, hygiene, disease prevention, water purification, and treatment for such diseases as malaria and conjunctivitis. This program provides an excellent example of ways in which a child care and development center has served as a catalyst and location for developmental activities that help the community at large and foster use of health and nutrition technologies (Evans 1986; Myers and Landers 1986).

Mozambique

Some of the agricultural cooperatives of the green zones around Maputo in Mozambique, combine short and feasible working hours with child care on the spot. Since the number of mothers among cooperative members is high, this child care arrangement allows work to continue at a sustained rhythm and cooperative earnings are not significantly reduced. Infants

receive the benefits of breastfeeding and avoid the other physical and health risks associated with being left alone or brought to the fields with their mothers. In addition to providing a safe place for children to stay while their mothers are at work, these child care arrangements are designed to provide an environment that will stimulate cognitive and psychosocial development.

A recent evaluation of the program shows that more than 70 percent of the mothers using them rated the creche monitors, the activities planned for their children, and their overall care as being good and nearly as many considered the food and sanitation to be better than satisfactory. The accommodation and equipment received lower marks. Their ratings fell to only "acceptable" in 38 percent of responses and "poor" in 10 percent. There was frank dissatisfaction expressed by 36 percent of the users, although most of the complaints seemed an indication that the purpose of the creches was misunderstood. Half of those with complaints expected the creches to provide shoes and clothes for the children and only 20 percent complained about poor equipment and lack of electricity. Fewer mothers said that the didactic material was inadequate or that the quality of the food was poor (UNICEF 1986b).

Ethiopia

In Ethiopia, a comprehensive child development program has been established to provide safe care and health and nutrition for children whose mothers are part of a fruit growing cooperative that produces oranges and mangoes. Although women had the right to become members of the Melka Oba Producers Cooperative mainly for gaining income, the prevailing conditions made it extremely difficult for women to fully participate and benefit from the right given to them by law. They were overworked, they lacked health care services, and the few who became members of the cooperative felt they did so at the expense of their children who either had to be left at home alone or taken to the orchards where they were exposed to the risk of physical attacks from snakes, rats, or other animals. The program brings together services from several organizations and includes monitoring of child growth and development, immunization, family life education including health and sanitation, and the introduction of appropriate technology to ease the work burdens of both men and women, such as wooden wheelbarrows to transport fruit to collection points. Both a creche and a preschool have been established for approximately 104 children aged 45 days to 6 years, administered by a Children's Affairs Committee of the co-op. Assistance is provided to train childminders to carry out health, nutrition, and other support activities. The salaries for the childminders are paid by the co-op. An innovative feature of the program is provision of work credits to women for time off to breastfeed their infants and to parents to take younger children to the preschool. Disease-related deaths among children ages 1 to 5 have been reduced and women's participation in the cooperative has increased. The child care center in Melka Oba is self-sufficient except for the salary of a trainer for the childminders, which is paid by the Integrated Family Life Education Project. The model is being replicated in Yet Nora and other districts are interested in implementing similar programs (Evans and Myers 1985; Suetsugu 1986).

Zimbabwe

An example of the initiative of women in rural communities comes from Zimababwe. According to a 1981 investigative report conducted by the Ministry of Education and Culture, hundreds of women in the rural areas, with no support from the government, have started some form of child care and development activity for their young children. One reason cited for the push from rural areas for these programs is the need for mothers to free themselves for short periods from child care so that they can participate in income-earning activities to support family survival. The conditions under which the more than 4,400 village programs operate vary considerably. They range from programs operated under trees, to programs in small buildings with thatched roofs, to programs in churches, to more elaborate facilities constructed and maintained by municipal support. A typical program serves 85 children with only one or two mothers (generally untrained) caring for children. Many parents, because they lack financial resources, pay for the program using a bartering system (Evans and Myers 1986).

Kenya

More than 500,000 children are attending non-formal preschools (called nursery schools) in Kenya that originated in the self-help movement known as harambee. This system grew up in part from a need to provide care for children while their mothers worked in the fields. Parents see benefits not only in terms of academic preparation for primary schooling, but also in the associated provision of health care. The community is responsible for building schools and employing the paraprofessionals who operate them. Most of the children attending are between the ages of 3 and 6. The Ministry of Education now provides support through in-service training, supervision, and a program to develop localized curricula and materials. Although this preschool has taken on many formal characteristics, it remains firmly rooted in and controlled by the community, giving it a "non-formal" character.

Urban Examples

Venezuela

A program was established in 1974 to provide mothers working outside their homes with access to child care in which their children would be safe and well-cared for. The resulting system of home day care was an outgrowth of the natural forms of child care found in the poor neighborhoods to which it was directed. Day care mothers, who had to be Venezuelan and at least 18 years old, were paid a small stipend (part by the government and part by mothers using the service) to care for groups of five or six children under the age of 6 in their homes for 12 hours a day. Care included health, nutrition, and education in an established routine. Homes had to meet requirements for safety and hygiene. The program equipped homes with some furniture and materials.

To develop and implement the Venezuelan program, the Children's Foundation, a quasi-governmental organization presided over by the President's wife, joined with governmental agencies including housing, public works, health and social services, social security, and nutrition. Each day care mother received training and was aided by a technical support team consisting of a social worker, health worker, and a teacher serving a group of 20 caregivers in any particular neighborhood. A neighborhood coordinator was each responsible for 60 homes. According to an UNICEF-supported evaluation of the Venezuelan program, "The day care mothers provide the children with the necessary custodial care, are alert to their basic needs, abide by the stipulated daily schedule, know the norms governing the program, have basic knowledge in the areas of health, nutrition, and child development, prepare and serve meals, protect the children against dangerous situations, take care of the children's personal hygiene, and give the children a home-like environment until the arrival of their mothers." As might be imagined from the description, this particular version of day care was relatively expensive (less expensive to the government than formal day care in large nurseries, but still expensive). At the time, Venezuela was benefitting from an oil boom and felt it could afford the costs. Although the program grew to include 1,260 day care homes in 42 neighborhoods in Caracas, overall coverage remained limited. Moreover, with a change of government, political backing for the home day care system disappeared and the leveling off of oil prices created renewed cost concerns. Although some day care mothers continue to provide services on their own, the program, as such, has died out.

Ecuador

Another example of home day care comes from Guayaquil, Ecuador where a day care system is supported as one sub-project within a more general urban basic services strategy. The broader program brings together primary health care, women's income generating activities, nutrition, and social communication. Home day care mothers, who care for up to 10 children, ages 0-6, receive some training and are also helped to improve their homes. They are paid a minimum wage. Mothers who leave their children to be cared for form a committee to oversee the process. One committee member is charged each week with purchasing food for the children's needs. The day care system is linked to other supportive services and supervision is provided. The system seems to provide adequate care for children and has given an income earning opportunity to some women. It has, however, remained a relatively small program.

Ghana

An example comes from Ghana where the Accra Market Women's Association needed to set up a child care program for their children while they were involved in buying and selling. Working with the City Council, the Department of Social Welfare, the Ministry of Health, and the Ministry of Water and Sewage, a building near the market was refurbished serving 200 children from infancy through age 5 and one-half. Administered by the Regional Health Officer, the program has a strong health and nutrition focus. Mothers are encouraged to come to the center to breastfeed. Children are provided with a morning snack and a full lunch. For children to

participate, they must have a physical examination and appropriate immunizations. Once a month a public health nurse inspects the facilities, provides immunizations as needed, and completes children's medical charts. Good cooperation between the market women and supporting agencies has made this market center a success. The model is replicable, although coverage is focussed on relatively few children.

India

The Mobile Creche Program, operating 50 centers at any given time in New Delhi and Bombay, specializes in caring for children from one of the poorest sections of the Indian society—the children of migrant construction laborers. These centers take care of about 4,000 children on any given day. Mobility is built into the program as a direct response to the special needs of thousands of families engaged in an occupation which takes them from site to site, building makeshift shelters near the worksites. The child care centers are set up in whatever accommodations are available at a particular construction site, in basements, tin sheds, unfinished skyscrapers, or tents. When work at one construction site is completed and families of the laborers depart for a new site, the mobile creche also moves to the new location.

Begun in 1969 with the opening of one creche in New Delhi, the program was initially the charitable effort of two concerned women who provided a supervised playing and resting place and some food for children while the parents were working. Since then the program has expanded to provide services for infants and young children (from 0-3 years), for children ages 3 to 6 who enter a nursery school (preschool) program, and for elementary school children from ages 6 to 12. In practice, however, the groupings are not rigid and there is considerable freedom of movement. Included in the program's content is the provision of lunch or nutritious snacks and regular visits by doctors and treatment of diseases and malnutrition including maintaining growth charts. Emphasis is also given to children's cognitive and psychosocial development and one of the goals is to prepare them for the formal school system. The creches have also evolved into community centers which also address the needs of parents and offer classes in nutrition and hygiene for the mothers, adult literacy training, and training in vocational skills.

In the program, equipment is low-cost and locally provided. Culturally familiar materials are used. The para-professional day care workers are trained on-the-job by a process of exposure, observation and participation, working under the guidance of experienced field workers who have some professional exposure and on-going training. Creche workers receive salaries and are recruited from the local communities. Most are young women who may be part-time students or unemployed, although more recently, older boys have become interested in the program.

Although limited in scale, the program has consistently met its twin objectives: Working for the development of the whole child while serving the needs of the working mother at her doorstep. Also, the quality of care has been shown to be excellent (Swaminathan, 1985).

Child-to-Child

One example of the Child-to-child program comes from Kenya where, in 1979, participants from the fields of education, health, and social work determined that management of diarrhea should be the first focus of a program in Kiambu Province. Training and support of the Child-to-child effort was provided and outcomes were monitored, focussing on measuring changes in knowledge, attitudes and skills, and comparing the number of diarrhea cases brought to the hospital before and during the project. The pilot project proved successful; the model was then implemented in other villages in the area (Myers and Landers 1986).

Another example of a Child-to-child program comes from Jamaica. The dual purposes there are to help the school children become good parents and to improve the care received at present by younger siblings. As part of the regular curriculum, primary school children, 9-11 years of age, are taught basic childrearing practices, focussing on hygiene, child-feeding and child development. To put the program in motion, teachers were brought together in two weekly workshops where they discussed development issues and were provided with ideas, activities, and lesson plans. Teaching is done through song (using folklore, music, and the Jamaican dialect), dramatizations, and other participatory activities rather than through didactic teaching. Children color pictures which provide a development message and take them home. They also make toys which are taken home to be used with younger siblings. An evaluation shows changes in the knowledge and attitudes of the primary school children (Myers and Landers 1986).

Another example comes from an urban slum in Bombay, India. By recognizing the potential of children as messengers to their parents and as "health educators," staff of a free lunch program at a primary school have increased participation rates in the program by both children and mothers. School attendance increased so that it was close to 100 percent. The children were healthier. Cleaning their own eating utensils trained them in elementary hygiene. Profiting from this experience, the staff then addressed the health center's problem of getting parents to bring their children for immunizations and follow-up injections. They obtained a list of the siblings of all the school children and had the children bring their mothers and younger siblings for immunizations, which were given in the classrooms. "The children actually began to vie with one another in demonstrating their influence at home." The results were startling: a success rate of 90 percent where it was previously only 20 percent. Building on the success of the nutrition and immunization efforts, a "child-to-mother" health education program was begun. Health education sessions for the older children were given, using teaching devices such as role-playing, discussion, and demonstration. The focus was on local health problems such as tuberculosis, malnutrition, scabies, and other diseases and deficiencies commonly encountered in the area. The children were shown patients with particular conditions and were taught to recognize certain signs of illness and deficiencies. In this one small school, no fewer than 94 students brought people suspected of having health problems to the school's health center (Bhalerao 1981).

Child Care as an Economic Activity in Tarqui, Ecuador

A family day care program in the community of Tarqui on the outskirts of Quite, India, designed to meet the child care needs of poor women working outside the home in the informal urban sector, also meets the employment needs of some of the community women. An evaluation of the project shows that the mothers who have been trained as day care providers have, in essence, established small businesses. In the process of learning to manage their home day care programs, they learned bookkeeping and recordkeeping skills. They also have a new image of themselves as wage-earners. While initially seeing their work as an extension of their caregiving role within their own family, they soon began to see their work with the young children as a legitimate job. One example of the way their self-image changed was their demand to be recognized as employees of the sponsoring Tarqui cooperative, so that in addition to their regular salary as day care providers, they could also receive the benefits that other co-op members were receiving in health care, insurance, and job security. Unfortunately, the women had to actually resign their positions, which gained them public support, before their requests were met. (Many cooperative members felt the women were not entitled to the same benefits because they viewed the work as a "contribution" to the community.) But clearly the women are finding their "voice" within the community and their work is being valued in economic terms by other members of the community (Evans and Myers 1985).

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