

WORKING MOTHERS AND CHILD SURVIVAL

A Critical Exploration of the West Bengal Experience

WORKING MOTHERS AND CHILD SURVIVAL
A Critical Exploration of the West Bengal Experience

*Dissertation submitted in partial fulfillment of the requirements for the award
of the degree of **Master of Philosophy in Applied Economics** of the
Jawaharlal Nehru University, New Delhi.*

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M.Phil Programme in Applied Economics

2004-2006

CENTRE FOR DEVELOPMENT STUDIES

April, 2006

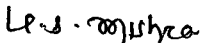
I hereby affirm that the work for this dissertation titled *Working Mothers and Child Survival: A Critical Exploration of the West Bengal Experience*, being submitted as part of the requirements of the M.Phil Programme in Applied Economics of the Jawaharlal Nehru University, was carried out entirely by myself. I also affirm that it was not part of any other programme of study and has not been submitted to any other institution/University for the award of any Degree.


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Certified that this study is the bona fide work of Tannistha Samanta, carried out under our supervision at the Centre for Development Studies

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To My Parents

ACKNOWLEDGEMENTS

My getting into the M.Phil Programme of CDS and submitting the dissertation successfully might be viewed as a rare feat of co-ordination among a number of individuals. I take this opportunity to thank them all whose sustained academic inputs have informed this narrative variously.

I was fortunate to get two leading scholars in population health and demography as my thesis supervisors: Dr. U.S Mishra and Prof. S.Irudaya Rajan. It is difficult to overstate my gratitude to Dr. Mishra. With his enthusiasm, his inspiration and his great efforts to explain things clearly and simply, he helped me make this short research experience at CDS a virtual fun. Throughout the entire period of my thesis writing, he provided sustained encouragement, sound advice, and lots of good ideas. It has been simply great to work under his supervision. My other supervisor, Prof. Rajan, has ceaselessly inspired me through his wonderful amicability, responsiveness and insightful conversations during the development of ideas in this thesis. He has constantly reminded me to ask new questions, think variously, and express myself clearly. I remain grateful to both of them not only for this dissertation but also for shaping my entire academic engagements.

I am also deeply indebted to Prof. D. Narayana for his suggestions during the course of the thesis writing and to Prof. Chandan Mukherji for repeatedly saving me from STATA quagmire! I record my appreciation for Dr. Praveena Kodoth for her time and energy in helping me improve this document with her suggestions on some aspects of my thesis. Dr. Devika's continual good cheer was contagious as she occasionally engaged me in many hours of illuminating conversations on related topics. I genuinely appreciate Subratada's kind efforts in helping me understand some of the nuances of NFHS data set and spending hours to help me with the data analysis section. Many thanks to Rajesh Puliyara for formatting this entire document and making it look presentable!

My friends at CDS have motivated this work through many days of hardship and black humour. I am grateful to all of them for providing a stimulating intellectual ambience and thank them for their support and camaraderie. Special thanks to Roshni, who has almost been an emotional anchor and helped me to get through trying times; to Mythri for her level headed companionship; to Sreerupa for her friendly and kind gestures; to Diana for being a loving 'neighbour'; to William and Priyajit for their great sense of humour and disquieting dissent! Thanks to all other classmates for an unaccountable number of jovial arguments and fights! I would also like to thank all the administration and library personnel for assisting me in different ways.

My deepest gratitude is due to my parents and my sister for always being supportive of my dreams and aspirations, for patiently bearing with my endless tantrums and me! I also acknowledge and appreciate the love and support of Dip and thank him for always being there for me.

ABSTRACT OF THE DISSERTATION

WORKING MOTHERS AND CHILD SURVIVAL A Critical Exploration Of The West Bengal Experience

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2004-2006
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There is a deep and a legitimate uncertainty about the relationship between women's role as mothers and their role as economic providers. In its most basic form this uncertainty reduces to the question of whether women's income producing work-which is increasingly recognized as crucial to the survival of poor families-results in an improvement or a deterioration in the health and nutritional status of their children. Though at the policy level it is clearly recognized that both roles are important, but at the academic research level, researchers tend to consider one aspect or the other.

Couple of studies has indeed explored the relationship between mother's work and child survival, however most of them, have failed to recognize that the twin phenomenon of child survival and mother's employment are virtual outcomes. Thus apart from such causation being a sweeping one, it lends itself to no feasible policy derivative. Against this background, the present study dawns upon the realization that, more than the outcome like 'women's work' and 'child survival', there arises a need for inclusion of process indicators. Such process indicators include child bearing and rearing related variables as well as 'household conditioning' variables to represent opportunity or adversity of women's work leading to child well being.

The present study explores the West Bengal experience in depth. For the purpose of the study, secondary data has been processed and analyzed with the help of statistical tools in terms of both descriptive statistics as well as analytical models. Following the identification of pertinent and relevant variables, multivariate statistical tools (carried out in lines with Multivariate Logistic Regression) has been employed to dissect possible causality within the complex scheme of indicators representing women's work and child well being.

Attempt has been to understand the gamut of women's work within the context of pervasive poverty and limited access to basic health services, rather than focusing solely on the trade-off between women's child rearing responsibilities and market work. The study recommends policies that might enhance women's bargaining power within an intra-household set up and concludes that attributes of work as well as the social and cultural environment are important mediators of this apparent association, suggesting a confluence of 'individual' and 'collective' behavioural determinants meeting at the locus of the household.

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CHAPTER 1

“...The higher mortality of children if mothers work reflects the fact that employment for women is in addition to their traditionally ascribed roles. They alone must fulfill all of these obligations. Similar negative effects on child mortality would surely be evident if fathers had the sole responsibility for the care of infants while having to fulfill their obligations as earners. Unless gender roles and gender relations are renegotiated, children will continue to lose”

Kishore and Parasuraman
Mothers' Employment, Infant and Child Mortality in India
National Family Health Survey Subject Reports

...

INTRODUCTION

I.1 Context of the study

The relative positions of women and men in the labour market are products of their positions in the family (Beechey, 1987). Although the broad field of women's studies includes research on gender inequality in the economic and political sphere as well as within the family, the demographic literature on women's status deals with a limited segment of this area. While a good deal of demographic research has been directed toward gender inequality within the family, relatively little attention has been given to understand that women's domestic burdens may pose a greater impediment than child care responsibilities to participation in those 'economic' activities that may yield higher income.

Employment of women in economic activity has several beneficial effects for women and their families, not the least of which is the associated increased access to and control over resources (Kishor and Parasuraman, 1998). Research in Indian context, however, suggests that women's employment may have at least one disadvantage: the survival of young children appears to be negatively affected if women work (Basu and Basu 1991; Kishore 1992). The same research suggests that gender differentials in child mortality, which in the Indian context largely imply excess female mortality, are reduced when women work.

In the following few sections, I make an attempt to draw a few hesitant conclusions from the existing literature and from some disparate data sources, justifying the case of West Bengal as my area of interrogation, talk about my point of departure from the existing studies and make a brief discussion on the methods to be adopted by me. The primary objective of this study is to try and understand the gamut of women's work within the context of pervasive poverty and limited access to basic health services, rather than focusing solely on the trade-off between women's child rearing responsibilities and market work.

I.2 Working Mothers and Child Survival in India: A Review

There is a deep and a legitimate uncertainty about the relationship between women's role as mothers and their role as economic providers. In its most basic form this uncertainty reduces to the question of whether women's income producing work-which is increasingly recognised as crucial to the survival of poor families-results in an improvement or a deterioration in the health and nutritional status of their children. Since the question has not been adequately answered, and perhaps cannot be answered in this simplistic form, the usual response has been for the agencies to focus on one or the other of these two roles. One section is charged with health and nutrition, which tends to focus on women as mothers, and the other is charged with employment, or more frequently, "women in development" which focuses women as producers. At the policy level it is clearly recognized that both roles are important, but at the academic research level, researchers tend to omit one aspect or the other.

We have had in recent years a good crop of monographs exploring multiple conceptualizations of this causality. It is agreed upon by many authors that the most important of the redeeming features of maternal employment is the increased resources available for child welfare. As Mencher (1988) has graphically illustrated with data from villages in Tamil Nadu and Kerala, it is not just the fact of more money coming to the household that counts; what seems to matter is who brings the extra money. With the total household income remaining the same, a larger proportion of it seems to be spent on child welfare if the wife is working. Similarly, Kumar (1977) concluded from fieldwork in Kerala that improvements in wage income were translated into improvements in child nutritional status more readily in households where women were employed.

However with such studies coming up in the fore, Basu and Basu (1991) asked a valid question: what can poor non-working mother provide which the poor working mother with more money and knowledge cannot? The authors felt, the answer is probably, time. They realized that although several Time Allocation Studies (TAS) have already been carried out for studying the compatibility of child care with labor force

participation and non-market activities, this approach does not seem to have been extended to study the ultimate outcome of child care, namely, survival. The authors hence went on to conclude, that working mothers are associated with higher levels and narrow gender differentials in child mortality.

One straightforward explanation preferred by the Basu and Basu (1991) who consider some alternatives- is that (a) working mothers possibly do not have adequate time for child care and (b) work gives women "greater confidence [...] stemming from exposure to the outside world, [and] changed values wrought by awareness, that girls are also potentially useful individuals". This explanation is at times labeled as "women's status explanation" (Kishore and Parasuraman, 1998). The authors also consider an alternative explanation: " It may be that working women exhibit a more egalitarian sex ratio of child mortality not because they believe in and practice equal treatment, but because they do not have the means, in this case primarily the time and attention to discriminate more effectively against their daughters in favour of their sons".

However Krishnaji (1995) takes a different stand on this issue. He feels that the apparent conflict between women's work and child survival needs to be understood in terms of the causal links because it is not immediately obvious why higher rates of child mortality should be associated with working mothers. He argues that an alternative explanation of the empirical findings is possible: Working mothers rural areas generally belong to poor labor or peasant families. The extreme poverty in such families may explain the higher death rates; and to the extent that the conditions of poverty apply equally to girls and boys, the narrow gender differentials in survival may also be a reflection of these conditions. He further points out that son preference and discrimination against girls is universal in India, and it is not reasonable to assume that working mothers transcend this cultural inequity because of their 'exposure to the outside world'. He feels that, in particular, the prescription of providing women income-earning jobs at home to resolve the conflict between paid work and child care is not altogether sound because it does not take into account the fact that the discriminatory practices against girls have deep cultural roots.

Krishnaji (1995) in his study on Andhra Pradesh observes that the districts within the state are fairly homogenous with respect to the cultural practices associated with a strong preference for sons and the resulting gender biases. However, he further points out that there is much variation among the districts in the conditions of women's employment, in economic prosperity and so on (*ibid*). He also finds that employment levels among women vary a lot and depend both on supply and demand conditions. For example, he points out that in the extremely poor districts of Andhra Pradesh, there is considerable male outmigration and women in labour and poor peasant families have to work for survival. On the other hand, in the agriculturally prosperous districts, irrigated crops like paddy and sugarcane support high levels of employment among women. In Krishnaji's study of rural Andhra Pradesh, the following relationships across the districts are found to hold true.

- Levels of child burden (as measured by the fertility of older women) across space are positively related to levels of child mortality.
- Female literacy rates are inversely related to levels of child mortality, but their impact is roughly the same among boys and girls so that literacy among women is not a significant factor explaining gender differentials across space.
- Work participation rates among women do not bear a significant relationship with the levels of child survival.

Almost voicing similar observations with that of Krishnaji, Desai and Jain (1994) came up with some interesting conclusions. Their study was primarily based on eight villages in Karnataka and their sample excluded families with annual incomes above 10,000 rupees. However the authors justify that, because villages were chosen for their proximity to at least one primary health care facility, they (authors) were able to examine family-based factors in child health without having to deal with the issue of health care availability. The authors carried out a primary survey of the chosen villages and their results primarily based on time-use data collected for the index mother and her husband at two time points.

The authors felt that in the preoccupation with the supposed conflict between children's need for care and mother's need for income, authors usually tend to ignore women's other domestic responsibilities. Desai and Jain (1994) pointed out that domestic labor consumes a tremendous portion of women's time in poor areas, affecting both their care for young children and their opportunity to participate in the labor force. In their study, they find, rather interestingly, that the difference in health and nutritional status between children whose mothers work on the family farm and those whose mothers are housewives is relatively small. The authors further argued that women's economic activities are strongly correlated with family income and socioeconomic status. Wage workers and petty traders are more likely to belong to the scheduled castes and tribes, to have less education, and to have lower levels of family income and consumption. Hence, the authors conclude that the apparent negative correlation between mother's wage work and child health is likely to be caused by the family's socioeconomic circumstances and may have little to do with maternal work status.

Desai and Jain (1994) pointed out to another issue, which was widely discussed in the literature on the relationship between maternal employment and child welfare. They felt that much of the concern regarding maternal employment is based on the notion that the mother is the natural caretaker for her young children. Hence, when the mother is employed, particularly when she is away from home, children are left either without a caretaker or in the care of other siblings or grand parents. These children may not be fed appropriate food or may be more vulnerable to other health hazards. This is particularly true when the alternate care provider is another child, such as an older sister (Engle, 1989; Paolisso *et al.* 1989; Basu and Basu, 1991). However, Desai and Jain (1994) feels that implicit in this argument is the assumption that mothers who are not involved in economic work are available for child care. Based on actual time-use patterns in rural Karnataka, the authors found that this is far from true. The authors pointed out that most rural women spend substantial time in household activities, which include cooking and cleaning, fetching water, carrying clothes to river or pond outside the village and taking meals to family members in the fields. In fact, quite surprisingly, they find that children of mothers who do not work spend 3.8 hours in alternate care, while children of mothers who work for seven or more hours

per day spend about 4.4 hours in alternate care. Thus, the authors conclude that, if exposure to alternate care poses any risk to children, such as increased infection or accidents, these risks exist regardless of mother's involvement in economic activities, within or outside the home.

In this context, Kishore and Parasuraman (1998) conclude in a very interesting way. From their countrywide study they claim that mother's employment does have negative consequences on child survival if, the mother works away from home for cash, lives in an urban area, or lives in the south of the country. However, they caution that this does not mean that mother's employment should be discouraged. Instead, they point out that this suggests that society and culture have not adapted to ensure alternatives for childcare for women who work, irrespective of whether they work out of choice or necessity. They harp on that the higher mortality of children if mothers work reflects the fact that employment for women is in addition to their traditionally ascribed roles. Thus the authors feel that unless gender roles and gender relations are renegotiated, children will continue to lose.

Following I present a detailed summary table of the studies discussed so far, which traces the debate on the issue of working mothers and child survival over the years.

Table 1.1

Selected Studies relating to the issue of Working Mothers and Child Survival:

A Summary

Selected Studies relating to the issue of working mothers and child survival- A Summary			
Author/Year	data sources	Area/State (reasons for choice of the Area/State)	Major findings/Conclusions
Basu and Basu(1991)	Census, 1981; Registrar General of India, 1988, Year Book of the Ministry of Health and Family Planning, 1987, primary survey	Uttar Pradesh and Tamil Nadu (primarily because their study concentrated on the lowest socio-economic groups, and in both these States, the authors found a significant pool of poor migrant households)	1.Negative relationship between child survival and mothers' employment. 2.Time, being one of the major reasons behind this negative relationship. 3.Narrower gender differentials in child mortality, when women work.
Desai and Jain (1994)	primary survey (time use data collected for the index mother and other household members at two time points)	Eight villages, 60 km from Bangalore in Karnataka.	1. Need to recognise women's domestic responsibilities, as it consumes a tremendous portion of women's time in poor areas. 2.Difference in nutritional status between children of working and non-working mothers is marginal. 3. Apparent negative correlation is likely to be caused by family's socio-economic circumstances.
Krishnaji (1995)	<i>Child Mortality Estimates of India</i> , Census of India, 1981.	Andhra Pradesh (district-wise variation in the conditions of women's employment, in economic prosperity and so on.District-wise variations in child morality and its correlates)	1. Apparent conflict needs to be understood in terms of causal links. 2. The extreme poverty in families where women work, may explain the higher mortality rates.
Kishore, et al (1998)	NFHS-1 (1992-93)	Country-wide study, across 24 States and UT of Delhi.	1.Mother's employment does have negative consequences for infant survival if the mother works away from home for cash, lives in an urban area or lives in the south of India. 2. Women's employment is in addition to their traditionally ascribed roles. Hence need to renegotiate gender roles and gender relations.

I.2.a. A Disturbing Question: How to measure women's work in rural India?

Much of women's work remains unrecognized and unvalued...There is no adequate reward or recognition for the burden of work that women carry. Because status in contemporary society is so often equated with income-earning power, women suffer a major undervaluation of their economic status. This is so despite their larger share of the total work burden and notwithstanding the reality that men's paid work in the market place is often the result of 'joint production', much of which might not be possible if women did not stay at home looking after the children and the household (UN, 1995).

While discussing about the issue on mother's employment and child survival, it is also important to recognize the inherent difficulties in enumerating female labor force participation in rural India. Information on the nature and extent of women's work in rural India, as in many other parts of the developing world is sketchy (Desai and Jain, 1994). Pointing out to the methodological difficulties in measuring women's work in India, Bose (1979) observes that data on *women workers* do not give a correct picture on *women's work*. This is because a great majority of women in rural India are engaged in agricultural and household activities that are mostly unpaid and frequently uncounted (Sen, 1982; Sen and Sen, 1985). Desai and Jain (1994) find that activities as working for wages and engaging in petty trade are more likely to be counted. Thus, women who engage in economic activities in non-family settings are more likely to be captured in national statistics than women who work on the family farm or in the family business. Since women's participation in wage labor is related to absence of land ownership and to lower social class, statistics on employed women over-represent poorer women.

Jain (1996) voices similar thoughts. She feels that one of the most widespread presumptions in the description and analysis of labor force data-especially in relation to employment policy- is the denoting of women's economic roles as supplementary, subsidiary or secondary. She points out that the prescription has its base not only in myth, but also in the methodology which generates the facts. She argues that the link between the two, the myth and the methodology, is obvious- it has its base in reality that women and girls are uniquely engaged in household chores or domestic activity, and many similarly supportive activities, which are usually the lowest skilled, lowest paid and predominantly household or household proximate (Hart 1976).

Apart from this, Jain (1996) feels that perception also plays a role in leading to this presumption. Jain points out that women perceive themselves as mainly engaged in activities within the household, of which their most regular engagement is in what are, called domestic activities. Rural women feel and perceive these activities as having less value-, which indeed is how society perceives them (*ibid.*)

Given the above difficulties in enumeration of women workers, as Krishnaji (1995), rightly points out, that to the extent that the conflict between work and child care exist irrespective of whether the work is paid or unpaid, the bias has serious implications. Hence he concludes that female work force participation itself depends on a complex set of agro-economic, social and cultural factors not all of which may influence mortality among children.

1.2b A Special focus: Women's Work and the 'Triple Overlap'

Approached from any discipline- demography, economics or sociology, studies of women's participation in wage employment stress the enhanced status and autonomy that such work participation provide for women, which in turn confers on them greater decision-making power. The celebration of statistical increases in female work participation rates has, more often than not, hidden the fact that most employed women have no formal 'worker' status; this in turn means recourse to any form of action for redressal of grievances becomes infructuous, since legal recognition as 'worker' is a necessary condition for most courses of action (Swaminathan P, 2005).

At another level, Swaminathan (2005) argues that there is increasing documentation of the 'Triple Overlap' of gender stratification, economy and family (Blumberg, 1991). Insights from these studies provide an understanding of how housework is the aspect of family life most resistant to change. The authors feel that occupational demands and expectations continue to be based on the assumption that the worker is an individual who is relatively free of domestic and family responsibilities. Swaminathan (2005) feels that this has important, and more often, negative implications for women- *an important consequence of combining the tasks of production and reproduction is that it has serious impact on well being.*

The current renewed interest in issues of work and well being has come largely from feminist preoccupation with redefining 'work' to capture at one level, the varied nature of women's work, and at another level, to understand the impact of macroeconomic factors on women's work burdens. This in turn has led to questions of the *effort intensity* of women's work and therefore to issues of women's well being (Floro, M S, 1995). Given the very nature of this exercise, it has resulted in a fair amount of research and documentation of women's experience of their employment and the adverse impact that the multiple nature of their work is having/has had on their health and well being.

However, this particular issue of women's work has received limited attention in the literature. Evidence from Third World countries show that men and women spend income under their control in different fashions, with women holding back less for themselves and spending more on child nutrition and family 'basic human needs' (Blumberg, 1991). This means that when women lose control of income, what is affected is not only their relative power position within the family, but also family well being. In the collection of essays dealing with *Gender, Family and Economy* (1991), all studies agree that husbands do much less housework and child care than wives, even when the women work full time. But whether this situation is changing, and the conditions under which the gap shrinks, are hotly contested issues. I provide an adaptation of the above discussion in the following Table. The Table clearly shows that men do far less housework than women, and men's housework rises only slightly as we move from male bread winners to husbands of wives working full time in couples rejecting the traditional patriarchal provider ideology.

Thus drawing on Berk's important book, *The Gender Factory* (1985), authors have argued that this apparently lopsided and unfair system continues to be elected by most households because it is both housework and gender that are being produced. In short, her doing the laundry and his fixing the light switch not only produce clean clothes and a well lit room, they also produce a reaffirmation of gender roles (Blumberg, 1991).

	Husband Breadwinner Couples	All Couples	Both Spouses employed Full Time	
			All Couples	Antiprovider Couples
Husband's hours of housework	5.28	6.57	7.33	8.4
Wife's hours of housework	32.64	21.34	13.87	12.01

Source: Adapted from Blumstein and Schwartz (1991). All differences in husband's versus wife's hours are significant. "Antiprovider couples" reject the male sole provider role.

Thus from the above discussion we find that concern over work-family issues has been an enduring preoccupation of researchers across disciplines for over four decades. However, the situation is quite different for India, where there is a clear and distinct lack of focus on research relating to this aspect of women's work (Rajadhyaksha and Smita, 2004). Some isolated studies have no doubt being carried out, like Gothoskar (1997), Swaminathan (1997) and Panda (1997). No systematic study looking at this very aspect of women's work has been done for the state of West Bengal. However from the West Bengal data sets we find that rural women are mostly crowded in the unorganized and "household" sector, the work of which is 'invisible' at most occasions. Not only do these statistics explain absence of research in the work-family are, but they also build a case for it, especially since redistribution of work and family roles is critical for empowerment of women.

1.3 Major Departures and Research Objectives

However most of the studies, discussed so far have failed to recognize that the twin phenomenon of child survival and mother's employment are virtual outcomes. Thus, the apparent correlation if any between the two, needs to be probed further rather than being satisfied with such myopic conclusions. The authors who have indulged with this issue fall into two categories; one making aggregative linkages between Infant mortality rates and female work participation rates and the other comparing the child survival experience between working and non-working women. The first category of analysis may simply be indicative and never be assertive while the second

category will have the difficulty in attributing the difference in child survival experience to work status of women. In fact the demographic studies on this count argue on this causality by restricting the sample domain to younger mothers who represent the most recent experience of child loss qualifying the prevailing mortality regime. However, apart from such causation being a sweeping one, it lends itself to no feasible policy derivative. Hence, more than the outcome like `women's work' and `child survival', there arises a need for inclusion of process indicators. Such process indicators include child bearing and rearing related variables as well as `*household conditioning*' variables to represent opportunity or adversity of women's work leading to child well being.

Based on the above discussion, the study has harped on the following objectives:

- Systematic *process*¹ exploration of the causality between women's work and child well being².
- Differential dynamics of child survival in the context of West Bengal, given the specificity of the State with respect to female work participation rate and evolution of child survival.

1.4. Hypothesis to be tested

The study will be facilitated partly with available secondary aggregate level data and partly with the unit record data of National Family Health Survey-II, 1998-99 (West Bengal). These are the following hypotheses that need to be tested:

- No causality is observed between child well being and mother's employment, after controlling for other variables.
- If any significant causality is observed, further analysis will be made to verify the same with the process indicators.
- Is this causality poverty mediated or there remains something beyond poverty mediation which we name as `*household conditioning*' will be verified.

¹ By *Processes* I mean,

Enabling criterion which poor women need to ensure survival of their children, and Quality of Health Care and access to basic Health Care Services.

² Wellbeing defined in terms of child bearing and rearing parameters like breastfeeding, immunisation and vaccination.

I.5. Data and Methods

The secondary data would be processed and analyzed with the help of statistical tools in terms of both descriptive statistics as well as analytical models. Following the identification of pertinent and relevant variables, multivariate statistical tools will be employed to dissect possible causality within the complex scheme of indicators representing women's work and child well being.

As regard the unit level data available from large-scale surveys, variables of interest will be either identified or defined as the case may be to facilitate the proposed analysis. As the study is focussed primarily on West Bengal, attempts will be made to analyse spatial dimensions in Health Care Utilization as well to account for their possible influence if any on the dynamics of the proposed association.

Major secondary and primary unit level data sources that the proposed study seeks to use are:

1. National Family Health Survey-2, (1998-99) India
2. National Family Health Survey-2, (1998-99), West Bengal
3. Sample Registration System, Registrar General of India, 2001
4. Census of India, 2001
5. West Bengal Human Development Report, 2004.
6. Rapid Household Survey- Reproductive and Child Health Project,
West Bengal (1998-99).

However, though the study will draw certain inferences from the above mentioned data sources, but it will extensively use National Family Health Survey-2 (1998-99), West Bengal for the analysis. The main objective of the NFHS survey was to collect reliable and up-to-date information on fertility, mortality, maternal and child health. In West Bengal, the survey gathered information on a representative sample of 4000 ever-married women aged between 15 and 49 from 5127 households.

Three types of questionnaire were administered:

- Household Questionnaire
- Women's Questionnaire
- Village Questionnaire

For the purpose of the study, we use only the Women's questionnaire, to draw inferences from the background characteristics, work status and child health patterns of these women. To measure work status, the following procedures were used. All eligible women were first asked:

1. "Aside from your housework, are you currently working?"

Women who replied no were asked again;

2. "As you know some women take up jobs for which they are paid in cash or kind. Others sell things, have a small business or work on the family farm or in the family business. Are you currently doing any of these things?"

Women who replied "no" to both questions were treated as "non-working women" and women who answered, "yes" to either first or second question were treated as "working women" in the present study.

However some caveats about the data need to be noted. The data on employment refer to women's current work status (1998-99) while the demographic events could have occurred any time within the last three years prior to the survey. This implies that during the time of the occurrence of these demographic events, the women may or may not be working. However it is assumed that work status reported at the time of the survey is same for the last three years for all the women.

1.6. Plan of Thesis

The study consists of 5 chapters including the Introduction (Chapter 1). In Chapter 2, the attempt has been to situate West Bengal and examine the gamut of factors that plausibly have a bearing on the causality that we are looking at. A spatial analysis of the state is also being done based on data from secondary sources. In Chapter 3 we move away from the secondary sources and investigate into depth the individual and household conditionings of women, both working and non-working. Here the analysis is basically based on the unit-level data from NFHS-2. In Chapter 4, we develop a Model and discuss the patterns emerging from the Logistics Regression Analysis. Major findings of the above, analysis and conclusions drawn therefrom are presented in Chapter 5. The study draws its close by suggesting some Policy Recommendations and lays out the scope for further research.

CHAPTER 2

ISSUE AND THE CONTEXT

A Brief Overview of the Causality: Some insights from the secondary sources

In the demographic literature, the discussion of the relationship between women's work and child mortality has almost always focused on paid employment outside the home (Sivakami, 1997). At low skills and in less developed economies, working women's additional income may be quite small. The mother's employment is seen as affecting the family through changes in care received by children. Authors discussing this very issue have all agreed that if the woman is working, she is likely to spend less time on feeding children, cleaning them and playing with them. On the basis of review of literature, I again draw some inferences to establish the much-hyped association between mother's work and child well being.

However very few studies in India have specifically investigated the effect of mother's work on child health (*ibid*). Although, a few analyses of child mortality have examined mother's work as one of the explanatory factors. A study carried out by Sivakami (1997) in rural Tamil Nadu, concluded that children of working women are at a disadvantage compared to the children of non-working women. She claimed that this is especially true in the case of morbidity and provision of special foods. He justified his point with the help of the following interesting tables showing the differential outcomes between working and non-working women in rural Tamil Nadu.

Table 2.1**Time spent on childcare by working and non-working women**

Time spent on child care by working and non-working women		
Activities	Non-working women	Working Women
Mean time spent in hours per day on		
Bathing children	0.3	0.2
Giving Food	0.5	0.4
Playing with children	2.5	0.7
All activities of child care	3.9	1.5

Table 2.2**Incidence of Illness of children for working and non-working mothers**

Child Health/Care for children of working and non-working women		
	No-Working Women	Working Women
Mean Length of breastfeeding(in months)	14	11.5
Per cent children getting additional nutritious food	50	14
Per cent reporting incidence of any illness(during the preceeding year)	49.2	91.1
Illness during last three years		
Fever	81.3	91.1
Diarrhoea	3.8	20
Jaundice	3.8	14.6
Chickenpox	2.3	15.4

However in another study carried out almost during the same time on Haryana, by Berman *et al* (1997), concluded that contrary to expectations, spending on health care for children's illness episodes was negatively related with maternal earnings. They further found that the expected individual effects on women of work and earnings were not sufficient to alter the general spending pattern. Therefore they concluded that the attributes of work as well as the social and cultural environment are important mediators of such effects, suggesting a confluence of 'individual' and 'collective' behavioural determinants meeting in the locus of the household.

2.2 Situating West Bengal

To situate West Bengal in perspective, we make an attempt to summarize various factors that explain women's labour force participation and also discuss distinctive features that might have a bearing on the problem that we have restated. There are certain characteristics of this particular state, which makes it markedly different from

the rest of the states in the country. The Human Development Report of West Bengal (2004) says that about 72 percent of people live in the rural areas. According to the Planning Commission, the proportion of population below the poverty line in 1999-2000 in West Bengal was 31.85 per cent. West Bengal has an unparalleled distinction among Indian states, of being ruled, since 1977, by a coalition of left-wing parties, that have advocated class-based politics and are publicly committed to improving the position of the poor in the rural areas as a matter of priority (Sengupta and Gazdar, 1997). In this section, I make an attempt to tease out some of those characteristics which may have serious implications on the issue discussed so far.

Fact Sheet, West Bengal

Demographic Characteristics

Sex Ratio ¹	2001	934
Infant Mortality Rate (Sample Registration System)	2001	51
Mean Age at effective marriage for females ¹	1998	19.6

Characteristics of women² (NFHS-2, 1998-99)

Percentage working in the past 12 months	28.5
Percentage involved in decisions about own health	45.1
Percentage with control over some money	51.4

Safe Motherhood and Women's Reproductive Health (NFHS-2, 1998-99)

Antenatal check-up from a health professional	89.5
Percentage of births ³ whose mothers were assisted at delivery by	
Doctor	35.3
Nurse/Midwife	8.7
Traditional Birth Attendant	29.6
Percentage reporting at least one reproductive health problem	45.3

Child Health (NFHS-2, 1998-99)

Percentage of children age 0-3 months exclusively breastfed	48.8
Percentage of children age 12-23 months who receive all ⁴ vaccinations	43.8

Nutrition (NFHS-2, 1998-99)

Percentage of women with anaemia	62.7
Percentage of children (6-35 months) with anaemia	78.3
Percentage of children undernourished (stunted)	41.5
Percentage of children underweight	48.7

1: The sex ratio of the population of West Bengal indicates that there are 934 females per 1000 males: *Health On March, West Bengal, 2001-02*, West Bengal Health Systems Development Project, Government of West Bengal.

2: ever-married women age 15-49.

3: for births in the past 3 years.

4: all- BCG, DPT (3 doses), Polio (3 doses), Measles.

The following discussion on certain key indicators of health, demography and socio-economic variables will help throw light on some State specific characteristics.

2.2a. Demography and Health

Early marriage is a problem in West Bengal. Banerjee, *et al* (2005) points out that more than half the women who got married in the period 1981-86, had been married before the age of 18 years. Surprisingly the percentage for India as a whole was much lower. The authors conclude that, it appears that in rural West Bengal the trend of women getting married early is more common than in the rural India as a whole. The following Table summarizes some of the nuptiality aspects of West Bengal.

Table 2.3

.Singulate Mean Age at Marriage, by Sex of 1998-99 and Percentage of Women Marrying before 18 years

	NFHS-2		% women marrying < 18*	
	Male	Female	%	Rank
Andhra Pradesh	23.8	18.3	37.3	10
Assam	27.8	21.7	28.7	5
Bihar	23.8	18.8	58.2	15
Gujarat	24.4	20.2	25.3	4
Haryana	24.6	19.8	31.6	7
Karnataka	26.7	20.1	35.3	9
Kerala	27.9	21.5	9.1	1
Madhya Pradesh	23.5	18.9	51.4	13
Maharashtra	25.3	19.8	30.9	6
Orissa	26.6	21.2	32.2	8
Punjab	25.7	22.1	11.2	2
Rajasthan	22.3	18.3	57.1	14
Tamil Nadu	26.6	20.9	19.1	3
Uttar Pradesh	23.3	19	49.8	11
West Bengal	26.2	19.6	51.1	12
India	24.9	19.7	36.9	

Source: NFHS-2, Table 2.4

Notes: * RCH = % of girls marrying below the age 18.

However recent reports (NFHS-2) suggests that there is evidence of a steady rise in the age of marriage. The Report further points out that in both rural and urban areas there has been a decline in the proportion of women married by age 15.

One of the basic parameter of assessing the health situation of any given population is the Infant Mortality Rate (IMR). I present some facts and tables concerning the vital rates and IMR status of the state vis-a-vis other states in the country. The Tables show that West Bengal has substantially improved its IMR status from 63 to 51 and is well below the national average.

Table 2.4
Vital Rates of India and West Bengal (per thousand)

Year	Birth Rate		Death Rate		Infant Mortality Rate	
	India	West Bengal	India	West Bengal	India	West Bengal
1990	30.2	28.2	9.7	8.4	80	63
1996	27.5	22.8	9	7.8	72	55
2000	25.8	20.7	8.5	7	68	51
2001	25.4	20.5	8.4	6.8	66	51

Source: Sample Registration System, Registrar General of India

Table 2.5
Infant and Child Mortality by States, India (1998-99)

States	Infant Mortality	Child Mortality
Andhra Pradesh	65.8	21
Assam	69.5	21.4
Bihar	72.9	34.7
Gujarat	62.6	24
Haryana	56.8	21.2
Karnataka	51.5	19.3
Kerala	16.3	2.6
Madhya Pradesh	86.1	56.4
Maharashtra	43.7	15
Orissa	81	25.5
Punjab	57.1	15.9
Rajasthan	80.4	37.6
Tamil Nadu	48.2	15.9
Uttar Pradesh	86.7	39.2
West Bengal	48.7	19.9
India	67.6	29.3

Source: NFHS-2

Notes: NFHS-2 includes infant and child mortality rates for the five year period preceeding the survey by State.

However there are certain aspects regarding health and nutritional status, which is quite alarming in West Bengal. The overall anaemia status of children in West Bengal is very poor as the State ranks as low as 19th among the 25 states (*West Bengal Human Development Report, 2004*). The Report also points out that the proportion of children with anaemia (78%) is higher compared to the Indian average of 74%.

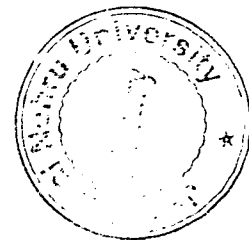
The nutritional status of women in West Bengal is a source of some concern, since it seems to be significantly worse than the national average (*ibid*). Infact in a study conducted by the National Nutrition Monitoring Bureau, West Bengal ranked 8th among the 9 states in important variables such as chronic energy deficiency among women. The Report envisages that, the situation is alarmingly grim in the rural areas, where 64 per cent of ever-married women are found to be anaemic as compared to 58 per cent of women in urban areas. The following Table summarizes the above comments.

Table 2.6
Comparative Pattern of Nutrition Indicators of women

Indication	West Bengal	India	Position of West Bengal	Best Performing States	Poorest Performing States
Mean Height (NFHS-2)	150 cm	151.2	23	Punjab	Bihar, Assam
% with BMI less than 18.5 (NFHS-2)	43.7	20.3	24	Delhi, Arunachal Pradesh, Sikkim	Bihar, Orissa
% with Chronic Energy Deficiency II plus III NNMB-2002	19.9	35.8	8	Kerala	Maharashtra
% with Moderate and Severe Anaemia (NFHS-2)	62.7	18.5	20	Kerala, Mizoram	Assam, Bihar, Rajasthan

Source: Chakraborty (2003)

Note: NFHS-2: Rank among 25 states; NNMB: Rank among 9 States.



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2.2b. A note on the Quality of Health Care

The following tables summarize the health care situation of the State with respect to the other states in the country. Reports (NFHS-1, NFHS-2) suggest that there has been some improvement in full vaccination coverage in West Bengal. The proportion of children who did not receive any vaccinations declined substantially from 22 percent in NFHS-1 to 14 percent in NFHS-2. However it is evident from the Table that in spite of that, when compared to states like Haryana, Kerala, Punjab and Tamil Nadu, the coverage levels are still low. NFHS-2 points out that this is because large number of children who receive some early vaccinations drop out of the programme before receiving all of the recommended vaccinations.

Table 2.7
Childhood Vaccinations by State

States	All*
Andhra Pradesh	58.7
Assam	17
Bihar	11.6
Gujarat	53
Haryana	62.7
Karnataka	60
Kerala	79.7
Madhya Pradesh	22.4
Maharashtra	78.4
Orissa	43.7
Punjab	72.1
Rajasthan	17.3
Tamil Nadu	88.8
Uttar Pradesh	21.2
West Bengal	43.8
India	42

Source: NFHS 2

Note: * All includes BCG, measles, three doses each of DPT and Polio Vaccines (excluding Polio 0)

The key elements of the elaborate reproductive and child healthcare system that has been set up in the country over the last few decades, so far as pregnant women and mothers of newborn children are concerned are the following:

- Provision of antenatal care
- Encouragement of institutional delivery or home delivery assisted by trained health personnel.
- Provision of postnatal care, including at least three visits.

In the next few tables (Tables 2.8 and Table 2.9) we try to understand where do women in West Bengal stand with respect to these cares. As the following Table suggests that women in West Bengal are behind many states in institutional delivery. NFHS-2 and RCH surveys found that around 60 percent deliveries take place in homes in West Bengal. Further, only 44.2 per cent of deliveries are assisted by health professionals as compared to 83 percent in Tamil Nadu and 94 per cent in Kerala.

Table 2.8

Maternal Care Indicators by State			
States	Safe Delivery		% of deliveries assisted by a health professional*
	NFHS-2		
	%	Rank	
Andhra Pradesh	65.2	3	65.2
Assam	21.4	15	21.4
Bihar	23.4	13	23.4
Gujarat	53.4	7	53.5
Haryana	42	9	42
Karnataka	59.1	4	59.1
Kerala	94	1	94
Madhya Pradesh	29.7	12	29.7
Maharashtra	59.4	5	59.4
Orissa	33.4	11	33.4
Punjab	62.6	4	62.6
Rajasthan	35.8	10	35.8
Tamil Nadu	83.8	2	83.8
Uttar Pradesh	22.4	14	22.4
West Bengal	44.2	8	44.2
India	42.3		42.3

Source: NFHS-2

Notes: * includes doctor, auxiliary nurse midwife, lady health visitor or any other health professional.

Table 2.9
Receipt of Antenatal care by States, NFHS-II, 1998-99

States	ANC Treatment given	
	%	Rank
Andhra Pradesh	63.4	3
Assam	24.8	10
Bihar	10.1	15
Gujarat	42.7	6
Haryana	23.9	11
Karnataka	60.1	4
Kerala	86.1	1
Madhya Pradesh	20.2	12
Maharashtra	54.8	5
Orissa	32.5	8
Punjab	25.4	9
Rajasthan	16.6	13
Tamil Nadu	75.3	2
Uttar Pradesh	11.2	14
West Bengal	33.4	7
India	31.8	

Source: National Family Health Survey-II, 1998-99, India

In Table 2.10, we try to situate West Bengal as far as breast-feeding initiatives are concerned. The table shows that though West Bengal is far above the national average, but there is also no reason to celebrate. When compared to states like Assam, Orissa, Kerala and Tamil Nadu, it is quite evident that West Bengal has still a long way to go.

The health status of women and children in West Bengal brings out a rather mixed picture: in certain aspects this state has done well but in certain others it lags behind a fairly large number of major states in India. The detailed-State wise Tables helped us to show the health status of women and children in a comparative perspective.

Several authors however feel that, West Bengal's progress in improving health and educational conditions during the period of Left Front rule has not been extraordinary (Sengupta and Gazdar, 1997). The IMR rate has been declining, but its rate of change has been in line with past trends, and also in line with declining infant mortality rates in most other Indian states (*ibid*). In the next section we take a look at the employment aspects of women and try to situate West Bengal in a comparative perspective with the other Indian States.

Table 2.10

Initiation of Breastfeeding by State

States	% started breastfeeding within one day of birth*
Andhra Pradesh	37.3
Assam	77.6
Bihar	20.7
Gujarat	36.6
Haryana	31.1
Karnataka	41.5
Kerala	92
Madhya Pradesh	29.3
Maharashtra	47.7
Orissa	63.2
Punjab	19.5
Rajasthan	33.6
Tamil Nadu	78.7
Uttar Pradesh	13.4
West Bengal	50.6
India	37.1

Source: National Family Health Survey-II, 1998-99, India.

Notes: *: Includes children who started breastfeeding within one hour of birth

In a country like India, where poverty is a burning issue, any question of economic empowerment (which in a way is captured by mother's employment in this context) cannot be dealt with without poverty eradication programmes intertwined with earning opportunities. In fact, there is a consensus among many that employment of women is crucial to poverty eradication. It is around work participation and employment opportunities that the process of social empowerment and bridging of gender inequality can be understood (Mukhopadhyay, 2005).

2.2c. Employment Trends and Diversification

(a) Wage Employment of Women

The female work participation rate is still very low in the State as compared to other major states in the country (Mukhopadhyay, 2005). It is still ranked 26 among all the states. The author notices that though few states like Haryana improved their status significantly with respect to female work participation between 1991 and 2001, in West

Bengal it remained under 20 per cent. Mukhopadhyay (2005) feels that the rate is not only alarmingly low, but also does not show any upward trend. The Table 2.11 traces the low Female Work Participation rate in Bengal and also brings out the shocking changes in the outcomes when different data sources are used.

Interestingly we get some contrasting results when we look into the wage differentials in the wage employment in the State. Sengupta and Gazdar (1997) point out that data from WIDER villages suggest that at least in these villages, no gender gap applies. Hence, the absence of female disadvantage in terms of average wage therefore may reflect the *greater concentration of women's labour time in periods when wages are relatively high*. The table 2.12 shows the fact that male-female wage disparity is lower than the country situation.

Table 2.11
Measures of female work participation in India

States	Census (1991)		NSS (43rd
	Total	Total	Round) Usual
	Main + Workers	Main + Marginal Workers	Status Rural, Principal + Subsidiary
	Female	Female	Female
Andhra Pradesh	30.05	34.32	40.46
Assam	12.57	21.61	15.28
Bihar	9.97	14.86	17.74
Gujarat	13.74	25.96	29.51
Haryana	6.01	10.76	25.01
Karnataka	22.73	29.39	31.9
Kerala	12.81	15.85	26.81
Madhya pradesh	22.82	32.68	34.96
Maharashtra	26.47	33.11	35.1
Orissa	12.1	20.78	25.91
Punjab	2.79	4.4	25.66
Rajasthan	13.04	27.4	38.91
Tamil Nadu	25.13	29.89	37.88
Uttar Pradesh	7.45	12.32	19.24
West Bengal	7.96	11.25	17.81

Source: Table has been adapted from Prabhu, Seeta *et al* (1996): "Gender Related Development Index for Indian States: Methodological Issues", *Economic and Political Weekly*, October 26, WS 72-WS79.

Table 2.12

Daily Wages (in Rs) for Casual Workers in Public Works (1999-2000)

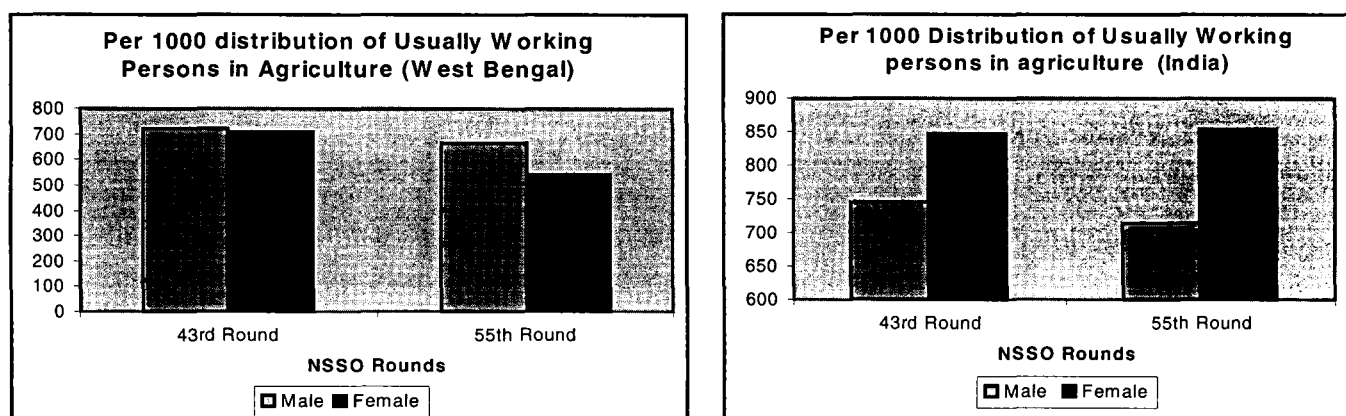
State/Country	Male	Female
West Bengal	37.34	34.12
India	48.14	38.06

Source: Government of India, *Employment Unemployment Survey Report*, NSSO, 55th Round, 1999-2000.

However Rogaly (1997) feels that the trend towards equalization of men's and women's wages has been tentatively linked to changes in the wider political economy in the State. As Sengupta and Gazdar (1997), point out in their study that the local-level collective wage bargaining which is seen as characteristic of this [Communist] regime, has been associated with a 'weaken[ing]' of 'patriarchy'.

With a closer look, we can understand the female work participation in the 43rd Round and the 55th Round of the NSS for the usual category including the principal and subsidiary categories. The two Rounds are presented to understand the process of change. For the rural population, agriculture is still the main occupation. Authors (Mukhopadhyay, 2005; Mukhopadhyay and Ghosh, 2003) have also realized that though the employment of women relative to men is low in the state compared to the entire country, it is significantly larger in agriculture than in all other occupations. The NSS Reports also reveal concentration in pattern of labour use among females. It is also observed that rural females do not dominate rural males in agriculture in the state as in India (*ibid*).

Figure 2.1: A Comparative View of the Employment Trends-India and West Bengal



(b) Unwaged domestic Work in Labour-selling Households: Gender Stereotyping

West Bengal follows the South Asian pattern of women preferring to work at home and both the society and these women generally do not recognize home-based production as part of the general production system of the economy (Mukhopadhyay, 2005).

The author feels that the items of home-based production require more data collection and analysis, which is not available in existing secondary sources of data. However data sources confirm how over the years home-based production is becoming popular and predominantly female in all the districts of West Bengal. The following Tables trace the female participation in home-based production from 1993 to 2000.

Table 2.13

Willingness to Accept Household Work: An Inter-State Profile.

States	Percentage of women willing to accept work in household premises	
	Rural	Urban
Andhra Pradesh	26.1	24.8
Assam	33.8	32.1
Bihar	37.1	34.9
Gujarat	27.3	28.4
Haryana	32.4	27.1
Himachal Pradesh	21.9	34
Karnataka	25.2	20.1
Kerala	24.8	23.7
Madhya Pradesh	22.3	30.9
Maharashtra	24.9	26.8
Orissa	41.2	32
Punjab	30.7	32.1
Rajasthan	18	26.4
Tamil Nadu	21.3	19.5
Uttar Pradesh	21.3	29.9
West Bengal	32.2	28
All-India	30.4	26.6

Source: NSSO, Sarvekshana, Vol 21, No. 2, 73rd Issue, October-December, 1997.

The above table clearly shows that both rural and urban women in West Bengal are willing to take up home based work as compared to other States. This particular tendency of women in this State might have important implications on children as well as on their own health. In the following Table we take a closer look to explore whether there has been any significant change in the trend towards household activity or home based work.

Table 2.14
Rural-Urban Female Participation in Home-based Production
(Percentage change between 1993-94 to 1999-2000)

Household Activity	1993-94		1999-2000	
	Rural	Urban	Rural	Urban
Maintenance of kitchen garden	30.8	9.5	15.3	3.3
Poultry-dairy	69.3	47.5	38.7	3.1
Collection of fish	51.4	8.9	38.7	1
Collection of firewood	74.5	44.3	72.8	15.7
Husking Paddy	17.6	1	13.3	25.3
Grinding of foodgrain	6.5	0.02	4.3	25.3
Preparation of cowdung cakes	73.9	52.3	61.1	8.4
Sewing and Tailoring	52	55.3	32.6	73.6

Sources: GOI, Employment Unemployment Survey Report, NSSO, 50th Round, 1993-94. GOI, Employment Unemployment Survey Report, NSSO, 55th Round, 1999-2000.

Perhaps, with the above detailed discussion on certain key areas of West Bengal, we are in a position to do a further in depth analysis to capture the spatial disparities of this State. The following spatial analysis is primarily based on data drawn from various secondary sources. This will help us to relate to the outcomes drawn from unit-level data at a later part of our study.

2.3 West Bengal: A Spatial Analysis

It is true that the infant mortality rate of this state has shown remarkable improvement over the last few years. However the West Bengal HDR, 2004, also points out that, there are substantial variations in rural IMRs, ranging from the low of 24 in Hugli to the highest rate of 74 in Dakshin Dinajpur and Purulia.

Table: 2.15
Infant Mortality Rates by districts of West Bengal, 1996-2000

Districts	Infant Mortality Rates	
	Male	Female
Darjeeling	39	43
Jalpaiguri	62	58
Koch Behar	76	76
Uttar Dinajpur	68	59
Dakshin Dinajpur		
Maldah	75	89
Murshidabad	61	59
Birbhum	60	65
Bardhaman	38	40
Nadia	56	57
North 24 Parganas	56	54
Hugli	25	25
Bankura	41	45
Puruliya	46	46
Medinipur	47	51
Haora	22	33
Kolkata	15	18
South 24 Parganas.	54	66
West Bengal	47	49

Source: West Bengal Human Development Report, 2004

Similar results are found if we look at the district wise health care facilities and infrastructure. The following table (Table 2.16) shows that there is a wide variation among the districts as far as the health care access is concerned. Immunization of children varies from 82.9 per cent in Kolkata to as low as 28.5 in Uttar Dinajpur. The Table points out that districts like Uttar Dinajpur, Dakshin Dinajpur, Maldah and Murshidabad are the ones, which are thoroughly disadvantaged as far as the indicators used to portray the health infrastructure.

Table 2.16
Health Access and Services

Districts	Children one year old received complete immunisation	No. Of Hospitals 2000 per 10,000/PP	No. of PCHs 2000 per 10,000/PP
Darjeeling	60.8	0.74	1.93
Jalpaiguri	62	0.29	1.34
Koch Behar	49.8	0.44	15.99
Uttar Dinajpur	28.5	0.17	1.12
Dakshin Dinajpur	40.5	0.27	1.68
Maldah	38.9	0.27	1.36
Murshidabad	39.4	0.27	1.54
Birbhum	34.9	0.3	2.57
Bardhaman	51.8	0.56	1.94
Nadia	68.9	0.56	1.28
North 24 Parganas	65.6	0.23	0.82
Hugli	67.8	0.59	1.38
Bankura	67.3	0.28	2.73
Puruliya	38	0.47	2.83
Medinipur	46	0.35	1.8
Haora	56	0.54	1.33
Kolkata	82.9	1.75	
South 24 Parganas.	59.4	0.22	1.22
West Bengal	53.25	0.46	2.38

Table 2.17
Initiation of Breast-feeding, West Bengal, 1998-99.

Background Characteristics	Percentage started breastfeeding within one hour of birth	Percentage started breastfeeding within one day of birth	Number of Children
Residence			
Urban	22.3	50.2	239
Rural	25.6	50.7	1077
Kolkata	22.1	53.9	52
Mother's Work Status			
Working in family farm/houses	30.5	53.9	59
Employed by someone else	33.8	55.3	170
Self-employed	17.8	45.7	59
Not worked in past 12 months	23.7	50	1027

Table 2.18
Rapid Household Survey under RCH Programme Key-indicators

District	Percentage of girls married at age less than 18 years	% of eligible women/Rural Households visited by ANM/Health worker during last three months prior to the survey	% of safe delivery
Bankura	50	30.6	66.3
Bardhaman	54.7	8.5	52
Birbhum	59.3	8.9	68.5
Dakshin Dinajpur	65.5	4	41.6
Darjeeling	25	7.8	60.4
Haora	37.8	10.4	71.9
Hugli	33.6	15.1	68.4
Jalpaiguri	36	4.4	35.5
Koch Behar	52.1	15.2	30.3
Kolkata	19.5	2.8	92.2
Malda	56.7	4.4	29.7
Medinipur	40	15.4	54.8
Murshidabad	79.1	4.6	39.7
Nadia	41.5	5.1	77.5
North 24 Pargana	48	9.7	65
Puruliya	74.4	28.2	35.3
South 24 Pargana	48.6	11.6	48
Uttar Dinajpur	59.1	3.8	23.6
West Bengal	48.5	15	52.8

Source: "Health on the March, West Bengal 2001-02", page 193.

The insights that we draw from the above discussion (and Tables taken from NFHS-2 and RCH-RHS), tempted us to construct Indices to rank the districts of West Bengal. The Index calculation is done in the next section.

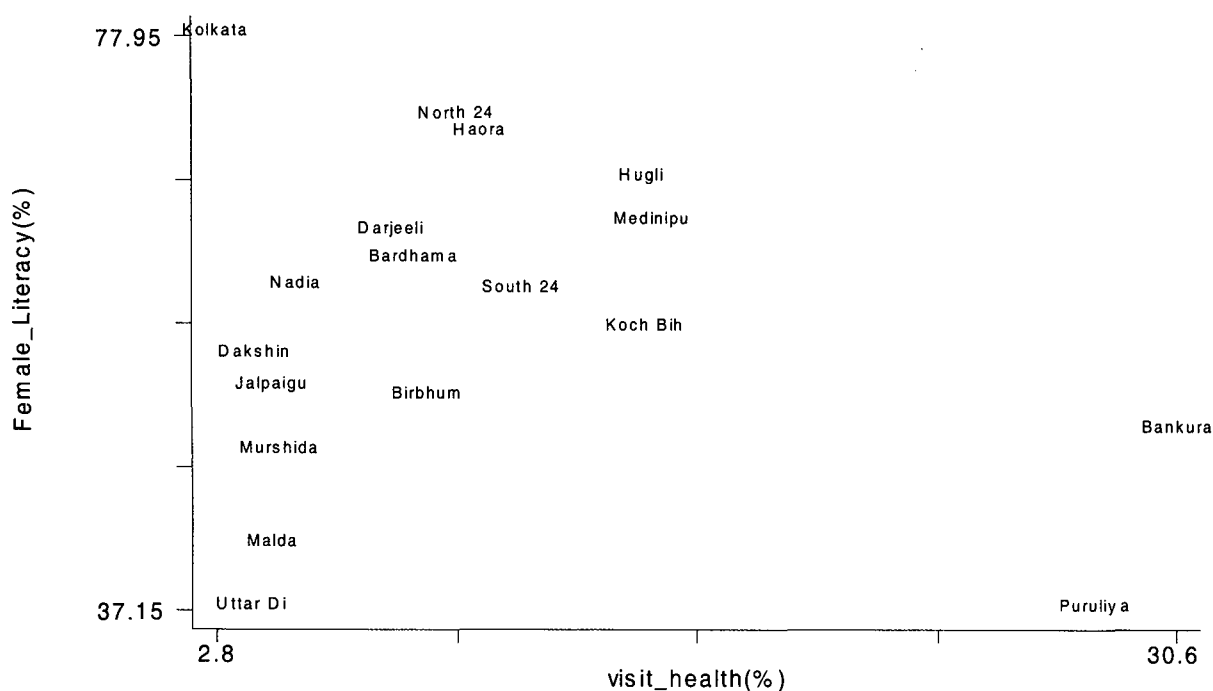
West Bengal ICDS Data: A Note³

A note on the ICDS functioning is called for while we deal in depth the child health situation of West Bengal. All Anganwadi Centre (AWCs) under the Integrated Child Development Scheme (ICDS) in the State submit a monthly report to their block-level projects about the weight of boys and girls covered by them. The AWCs are overwhelmingly located in the rural areas of the State. While talking about the

performance of these AWCs, Ghatak (2004) says that the ICDS programme in the State has a considerable ground to cover in terms of improving the overall nutritional status of children as well as narrowing the gap between boys and girls.

The following graphs (the data for all the graphs being taken from *West Bengal Human Development Report, 2004*) are intended to give a macro picture of some of the associations between selective indicators which affect child well being. The idea of association is borrowed from the dominant literature and effort is made to see whether certain associations hold true in the West Bengal situation.

Figure 2.2: Analyzing association between literacy and health awareness by Districts, West Bengal



³ For a detailed list of Tables from ICDS Monthly Reports, see Ghatak, Maitreya (2004): "Health and Nutrition", in Jasodhara Bagchi (eds), *The Changing Status of Women in West Bengal (1970-2000)- The Challenge Ahead*, pp.39-40.

Figure 2.3: Analyzing association between mother's education and child immunization by districts, West Bengal

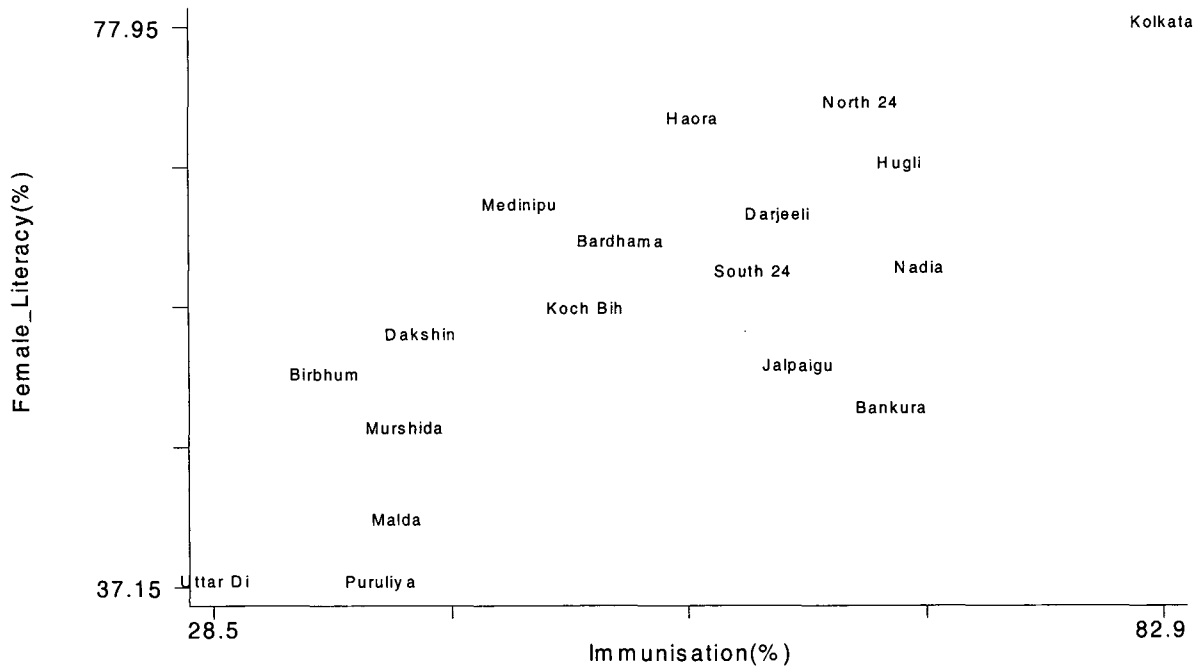
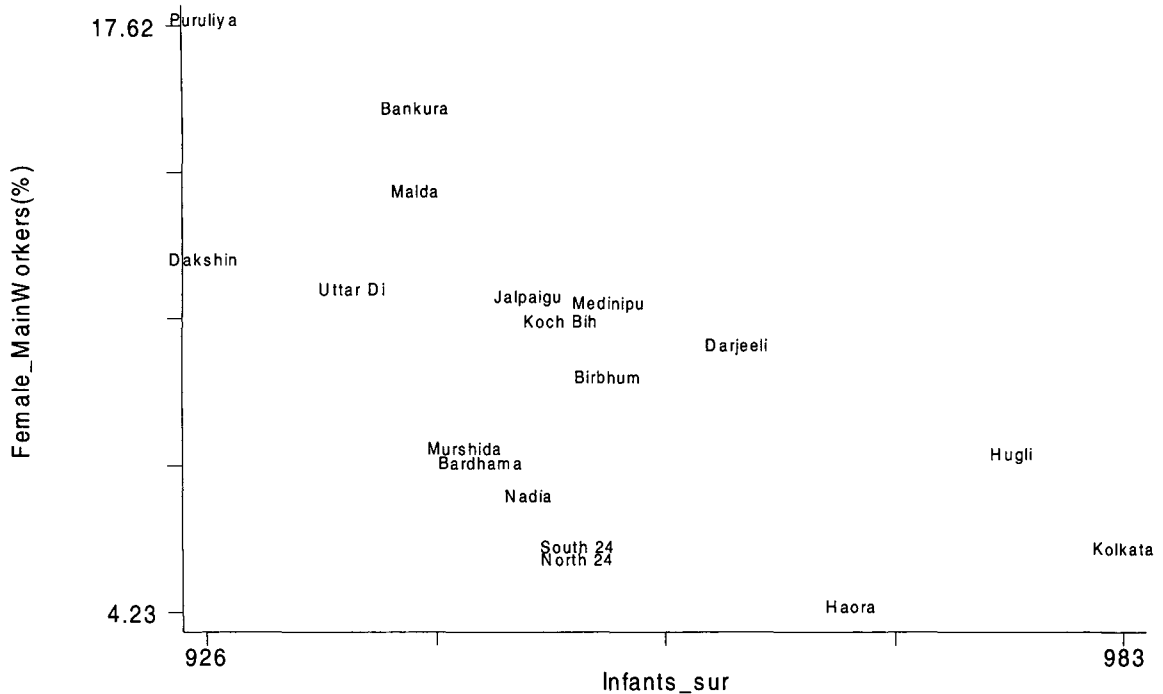


Figure 2.4: Analyzing association between female work participation and infant survival by districts, West Bengal



As observed in the existing literature, that female education has a positive impact on child health status, here in Figure 2.2 the attempt has been to look into this association closely across districts. Though the limitation of this secondary data source is that it only talks about overall female literacy which is inclusive of unmarried and ever married women. Hence the conclusions drawn are very broad based. However the graph clearly shows a positive relationship between female literacy and visit to a health worker, which in a way favorably affects child survival. However the districts of Bankura and Puruliya stand out from the usual trend, with Puruliya having very low rates of female literacy but alarming rates of visits to a health worker.

Figure 2.3 captures the association between mother's education and immunization status of children. The association though again quite broad based from the above graph, gives the much-expected results. The graph shows a positive association in terms of higher levels of female literacy leading to higher levels of immunization among children.

Figure 2.4 attempts to trace out the association between female (main) workers and infant survival, as hotly debated in the existing literature. The x-axis of the graph shows infants aged less than one year *surviving* per 1000 births. The graph shows that higher the levels of female work participation is associated with lower number of infants surviving per 1000 births. Kolkata records one of the lowest percentage (~5%) of female main workers and highest (983) number of infants surviving, on the other Puruliya recording the highest percentage of female main workers (17%) and lowest (928) number of infants surviving per 1000 births.

However the above analysis can only give a broad over view of the entire situation instead of looking into the particular contexts very closely. Social and economic conditionings are important to recognize when associations like these are taken into consideration. Hence this motivates us to shift away from the secondary data sources and calls for an in depth analysis based on unit level data.

In this section the attempt has been made to understand the health, demographic and socio-economic conditions across the districts of West Bengal. It is quite evident from the above discussion on some of the spatial aspects of West Bengal that, this state

presents no clear picture, and this picture is further complicated by the variations across the districts. Table 2.19 presents calculations for the *Composite Index* for different districts. The method of calculation of the index, as well as the statistical sources, is described in the Technical Appendix of this chapter.

Table 2.19
District wise Composite Indices, West Bengal (2004)

Districts	HEALTH INDEX	SOCIO-DEMOGRAPHIC INDEX	MATERIAL CONDITIONS INDEX	COMPOSITE INDEX
Bankura	0.78	0.29	0.28	0.45
Bardhaman	0.35	0.37	0.57	0.43
Birbhum	0.33	0.41	0.39	0.38
Dakshin Dainajpur	0.18	0.11	0.62	0.30
Darjeeling	0.44	0.65	0.65	0.58
Haora	0.49	0.72	0.67	0.63
Hugli	0.61	0.84	0.61	0.68
Jalpaiguri	0.28	0.42	0.27	0.32
Koch Bihar	0.31	0.41	0.62	0.45
Kolkata	0.67	1.00	0.68	0.78
Malda	0.11	0.23	0.69	0.34
Medinipur	0.41	0.51	0.64	0.52
Murshidabad	0.17	0.23	0.20	0.20
Nadia	0.54	0.43	0.50	0.49
North 24 Parganas	0.51	0.50	0.59	0.53
Puruliya	0.42	0.01	0.51	0.31
South 24 Parganas	0.41	0.45	0.53	0.46
Uttar Dinajpur	0.01	0.16	0.60	0.26

As quite evident from the table that when districts are ranked according to the Socio-demographic index and Material Conditions Index, there is a substantial differential in the performance of the districts. To take a closer look and identify the outliers the following Box-Plots has been constructed.

Figure 2.5: Box-Plot showing the Socio-Demographic Index, West Bengal

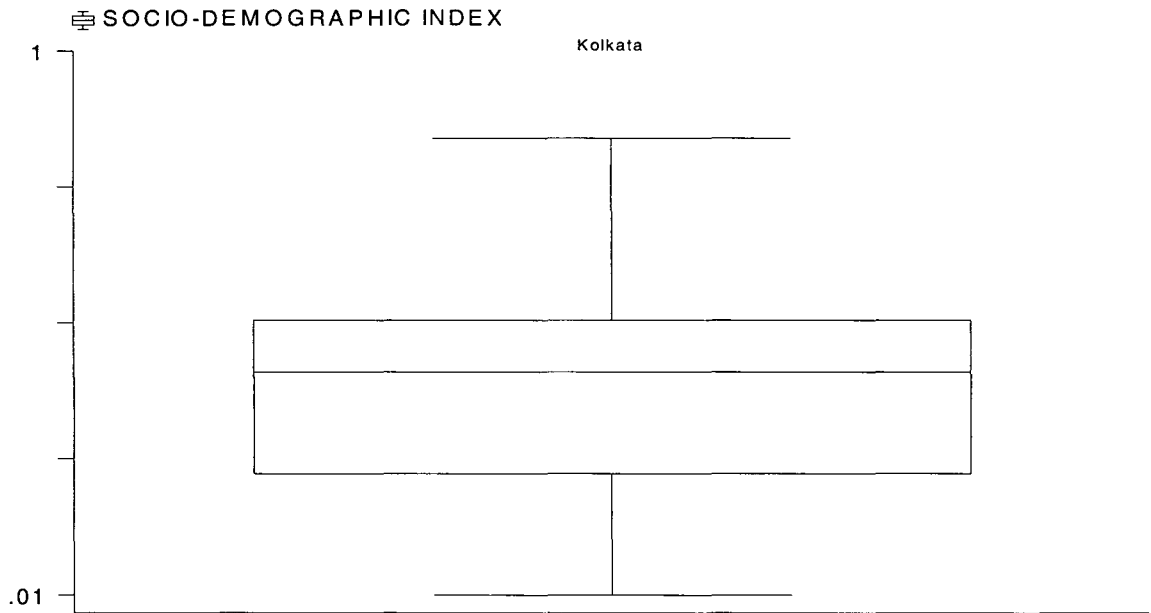


Figure 2.6: Box-Plot showing Material Conditions Index, West Bengal

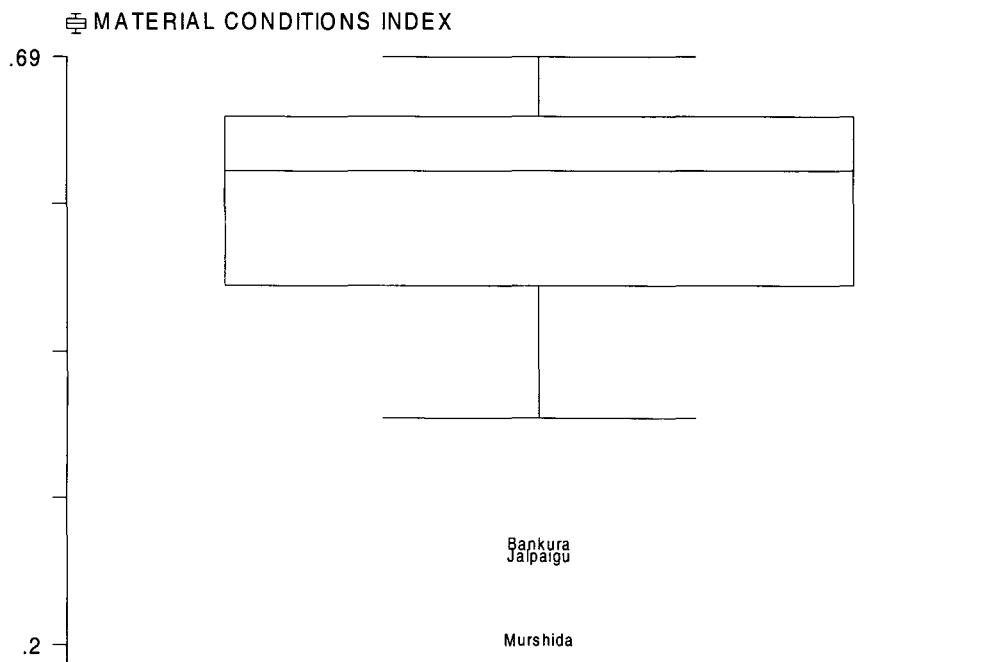


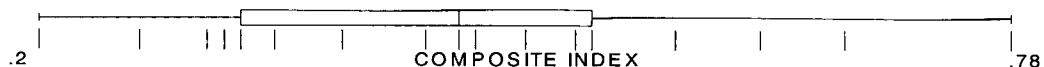
Figure 2.5 shows the districts when they are plotted against their respective socio-demographic indices. Kolkata (Socio-demographic Index=1) stands out as an upper

outlier implying 'better' performance by the socio-demographic indicators taken to construct the index. Kolkata thus has comparatively higher levels of female literacy, more number of infants aged one and under surviving per 1000 births and higher percentage of girls getting married at age 18 and above.

A look at Figure 2.6 shows that Bankura, Jalpaiguri and Murshidabad (Material Conditions Indices for the three districts being 0.28, 0.27 and 0.20 respectively) stand out as the lower outliers when districts are plotted as per their Material Conditions indices. This implies that these districts have more number of people living below poverty line and a comparatively lower percentage of female workers. However apart from deducing conclusions of this nature, it is also important to realize the gender aspect of the above outcomes. A low Material Conditions Index suggests a combination of greater restrictions on women's agency as well as lack of recognition of women's unpaid work. Both of these suggest a major undercurrent of gender discrimination in society.

However when the Composite Index is calculated based on the three indices, the distribution of districts present more or less a symmetric one-way box-plot with no major outliers.

Figure 2.7: One-way Box diagram showing *Composite Index*, West Bengal



The Figure 2.7 shows that Kolkata (Composite Index=0.78) retains its highest rank whereas Murshidabad records the lowest rank with the Composite Index value being

0.20. Also, from the above exercise of Index construction and Ranking, it is clear that districts like Dinajpur, Malda , Jalpaiguri and Murshidabad perform very badly as per the Health Index.

This brings into the fore the question of health infrastructure and the quality of health service available. It has been discussed at length in available literature that public health system in West Bengal bears an exceptional burden, because in addition to the high demographic pressure in the state, the bulk of curative services are in public hands. The very large responsibility and coverage of the public health system in the state are evident from the fact that almost 76 per cent of the health institutes in West Bengal are run by the government, compared to less than 40 per cent elsewhere in India and as little as 25 per cent in states like Kerala and Tamil Nadu. What is evident and quite worrisome from the above exercise is the fact that there are substantial disparities in health and income outcomes. This in a way also point to the gross inequalities which should be brought forth while framing policies and making budget allocations for districts.

However all the above discussion based on secondary data sources do not bring out any systematic explanation of how process indicators affect the outcome (child well being) and the association that we have conceptualized at the very beginning of our thesis. Though there is no denying of the fact that the isolated studies done so far and even the exercises carried out in this thesis do point out the key areas that need to be explored in depth to explain the causality that we have problematized. Hence to examine household responses to policy initiatives we have utilized unit level record data of NFHS-2 (1998-99) to flesh out in details and understand the role of the determinants in explaining this causality.

Appendix 2

The calculation of the Health Index, Socio-demographic Index and Material Conditions Index are analogous to the methodology adapted by UNDP for calculating Human Development Index. Each one of these indicators is normalized to keep indicator value lie between 0 and 1 with reference to maximum and minimum values. The general formula for calculating each dimension index across districts within West Bengal is

$$\text{Index} = \frac{\text{Actual Value} - \text{Minimum value}}{\text{Maximum value} - \text{Minimum Value}}$$

The Composite Index is then calculated as a simple average of three different dimension values i.e. $C I_j = \sum I_i j$, 'i' is the individual index value for the jth State.

Following is the list of variables taken to construct the three individual dimension indices:

Health Index

- Percentage of eligible women/Rural households visited by a Health worker.
- Percentage of safe delivery
- Percentage of children receiving complete immunization

Socio-Demographic Index

- Female Literacy
- Percentage of girls married at age 18 and below
- IMR

Material Conditions Index

- Percentage of female main workers
- Poverty Ratio (in percentage) for both rural and urban areas.

To ensure compatibility among the different Indices, for some of the variables (IMR, Poverty Ratio and percentage of girls married at 18 and below) the direction has been changed. Further the *Health Index* consists of a weighted average of the percentage of safe delivery (one-thirds weight), percentage of women visited by Health worker (one-

thirds weight) and percentage of children receiving complete immunization (one-thirds weight). Similarly, the *Socio-demographic Index* consists of a weighted average of female literacy (one-sixth weight), percentage of girls married at age 18 and below (one-sixth weight) and IMR (one-third weight). The same procedure was followed for the *Material Conditions Index* as well, which consists of a weighted average of poverty ratio (two-thirds weight) and percentage of female (main) workers (one-thirds weight).

The data sources for the above Indices being

- *Census of India, West Bengal, 2001*
- *Health on the March, West Bengal 2001-02*
- *West Bengal Human Development Report, 2004.*

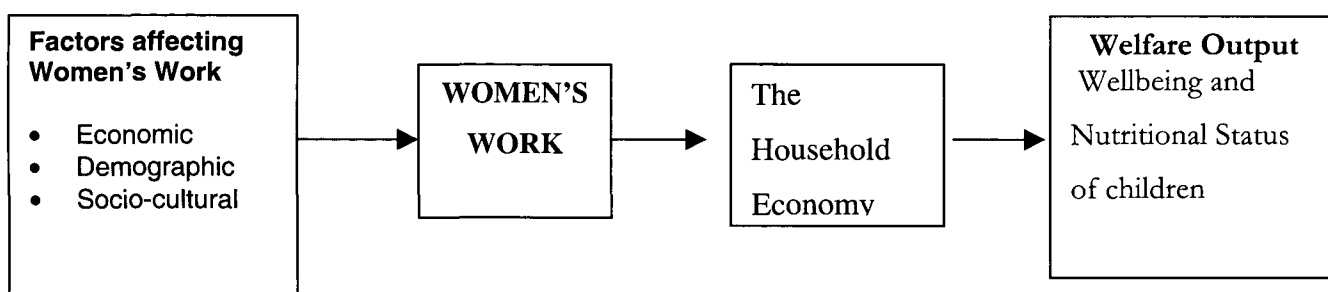
CHAPTER 3

CONTRASTING WOMEN'S WORKING ROLES AND OUTCOMES

3.1 Working Mothers and Child Survival: Theoretical Framework

The following figures present a theoretical framework⁴ for answering the question, does women's work result in an improvement or deterioration in the health and nutritional status of their children? Attempt has been made to make a careful investigation of the process of resource allocation within the household to understand women's role in the determination of child health and well being.

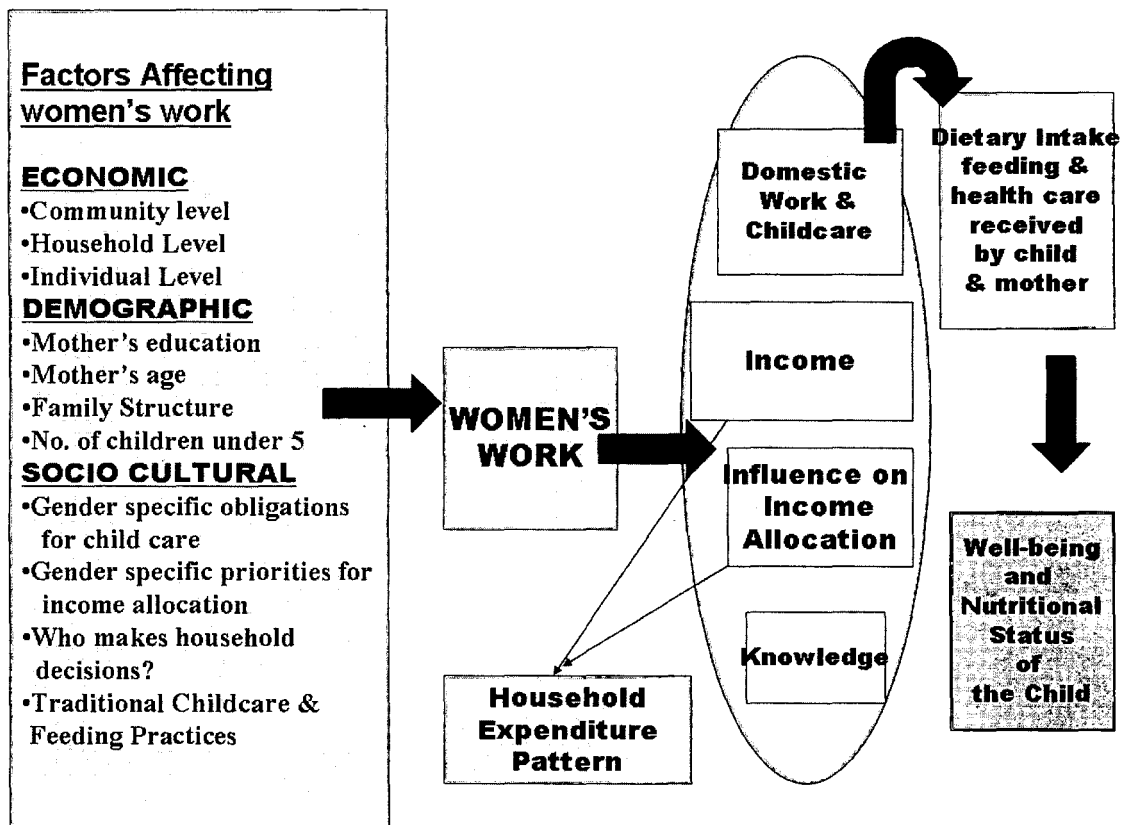
Figure 3.1: Women's work and child well-being: The major determinants



⁴ The above framework has been adapted from Bennett, Lynn (1988): "The role of women in income production and intra-household allocation of resources as a determinant of child nutrition and health", *Food and Nutrition Bulletin*, Volume 10, Number 3. Posted at: <http://www.unu.edu/unupress/food/8f103e/8F103E03.htm>

Figure 3.1 shows the major determinants within the family⁵ and outside, which might affect child well being. Disaggregation (Figure 3.2) permits us to begin to analyse trade-offs among certain types of inputs. For example, it allows us to determine in cases where the mother is working outside the home and cannot spend as much time on child care whether or not other family members make up the difference (although they are not shown in the model).

Figure 3.2: Women’s work and child well-being: Disaggregation



Disaggregation of inputs also allows us to explore the relationship between income earning and decision making power or the ability to influence how household resources are used. It can be hypothesized that the greater the extent of a woman’s influence over the allocation of family income (whether pooled or individual), the better the child’s dietary intake and nutritional status will be. Certainly an assumption of this nature has been made in much of the relevant literature, though there has

always been a legitimate uncertainty about the outcomes. Such is the strength of our unexamined belief in maternal altruism as a cultural universal. The framework presented here might allow us to look into the degree and direction of the mother's influence on expenditure of the household income on the child.

However it should be realized that the forces that determine the degree of the mother's influence over resource distribution (i.e. her power to decide on spending of family earnings) are extremely complex. Economic, demographic and socio-cultural factors affect this variable. The 'knowledge' input can be measured with reference to certain specific practices regarding breastfeeding, response to diarrhoea and others, which are key to a child's survival. Above all, the framework can be used to trace the social and economic conditionings in which women go out to work.

Hence given this conceptual framework, we are now in a position to investigate in depth the research questions set out at the very beginning of our analysis. However we plan to go for a systematic exploration by looking into the gross differences between working and non-working women and then going a step further by identifying the social conditions in which these women actually work.

3.3 Analyzing the NFHS-II (1998-99) sample women, West Bengal

Conceptually, as it has been felt by most of the authors over the years that the work status of women can affect child health because a working woman has less time to devote to childcare. Therefore it is necessary to examine how working and non-working women spend time on specific aspects of childcare. Further, it is possible that the working women as a class are in a different socio-economic stratum (Sivakami, M, 1997). The author adds that in particular, in rural areas, the women from poor landless families are more likely to work than women from affluent landholding families or from urban areas for that matter. Hence the latter may be able to provide better childcare than the former because of better financial and possibly educational endowments. Therefore to see whether work status *per se* has an influence on child health, it is necessary to control for household socio-economic factors.

⁵ The terms 'family' and 'household' have been used interchangeably in this discussion. However they are not synonymous

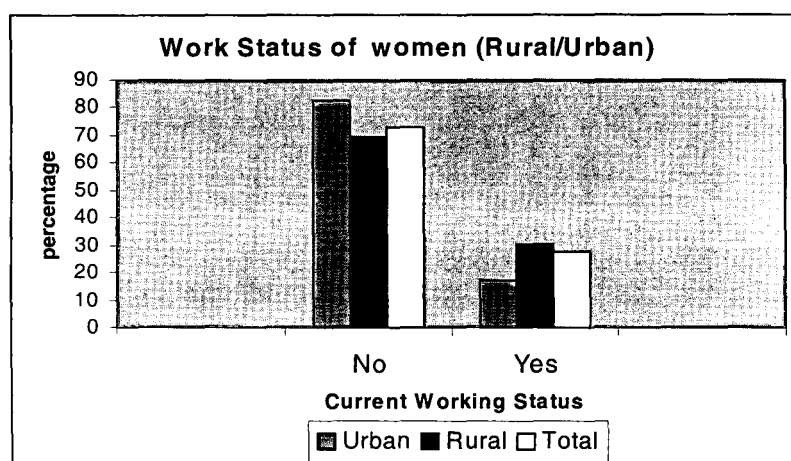
In order to answer the research questions raised in this thesis the attempt in the next sections have been to *firstly*, understand the profile of the sample and then *secondly*, dividing the sample of working women into groups to trace out their background and socio-economic stratum.

I. Profile of the Sample

Women's Work Patterns: Measurement and Interpretation

The following graph clearly brings out the fact that comparatively more number of women in rural areas (30.4%) go out to work than women belonging to selected urban areas (17.3%) of West Bengal (see Table I, Appendix).

Figure 3.3: Work Status of Women by region (Rural/Urban), West Bengal, 1998-99



Source: Chart constructed using the unit record data, NFHS-II, West Bengal, 1998-99

To take a peek at the type of employment women do, Table 3.1 has been constructed. The table shows that rural women mostly work away from home, either as a paid employee or as an unpaid worker. Although a closer look at the kind of work, as to whether it is 'at home' or 'away from home' does not reveal marked differences between rural and urban working women (See Table II, Appendix).

Table 3.1

Women's Employment Profile by place of residence, West Bengal

Type of place of residence	Current Type of Employment							Total
	Did not work	Paid employee, away	Paid employee, home	Self-employed, away	Self-employed, home	Unpaid worker, away	Unpaid worker, home	
Urban	81.47	7.876	2.898	4.117	2.781	0.1692	0.5803	100
Rural	68.36	14.08	5.531	4.992	3.459	2.272	1.19	100
Total	71.48	12.6	4.905	4.784	3.297	1.771	1.045	100

Source: Calculated from unit record data of *National Family Health Survey-II*, West Bengal, 1998-99

Notes: All figures expressed in percentages.

Table 3.2 shows differences in the nature of occupation between rural and urban working women. While urban women are engaged in professional, clerical or sales kind of work; women in rural areas are mostly agricultural employees. This Table also highlights an interesting fact- the statistically higher percentage of women doing 'household & domestic' work in urban areas as compared to rural areas might hint at the perception of rural women about their home-based domestic work, which often goes unaccounted. This (in a simplistic) way justifies the claims made in the literature about the invisibility of women's work, primarily in rural India.

Table 3.2

Women's Occupational Profile by place of residence, West Bengal

Type of place of residence	Respondent's Occupation										Total
	Not working	Prof, Technical, Managerial	Clerical	Sales	Agri-selfemployed	Agri-employee	Household & Domestic Services	Skilled	Unskilled		
Urban	81.47	3.067	1.054	1.706	0.3154	0.1232	3.888	0.4985	4.272	2.601	100
Rural	68.86	0.9344	0.1231	1.26	1.584	14.76	0.9352	0.0404	7.9	2.263	100
Total	71.48	1.442	0.3447	1.366	1.282	11.28	1.638	0.1494	7.037	2.344	100

Source: NFHS-II, West Bengal

Age Profile of the ever-married women in the sample

The sample has more number of young women (aged between 15-29) in rural areas than in the urban areas (See Table III, Appendix).

The following table clearly portrays that in rural areas, women who go out to work are younger than women in urban areas. In the age-groups 20-24 and 25-29, there are

marked differences in the nature of the working women population between rural and urban areas, where rural areas record almost 22% of women as compared to only 15% of women in urban areas.

Table 3.3
Working Women's Age Profile by Place of residence

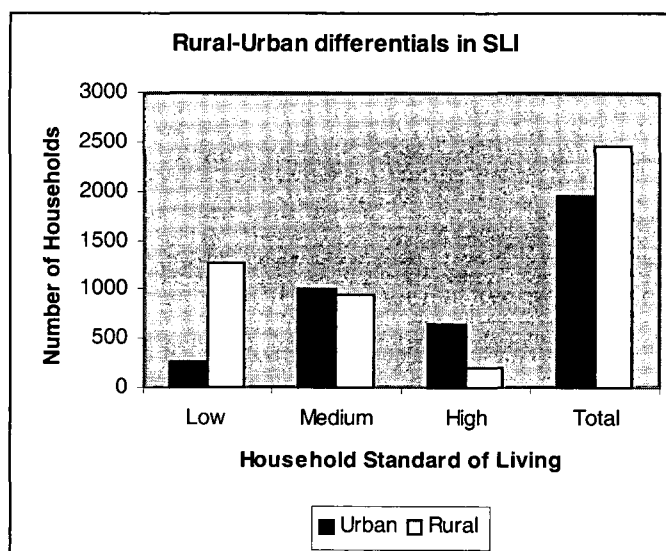
Type of place of residence	Five Year age-group of working women							Total
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
Urban	1.465	6.528	14.87	19.67	27.13	18.75	11.6	100
Rural	5.342	18.58	21.53	18.71	18.46	11.36	6.022	100
Total	4.757	16.76	20.53	18.85	19.77	12.47	6.864	100

Source: NFHS-II, West Bengal

Standard of Living

The following Figure clearly brings out that number of women belonging to the poor (low-income) households are more in rural areas than in the urban areas. The Chart also shows that rural women belonging to the high-income households are dismally low.

Figure 3.4: Economic profile of the Sample, West Bengal, 1998-99

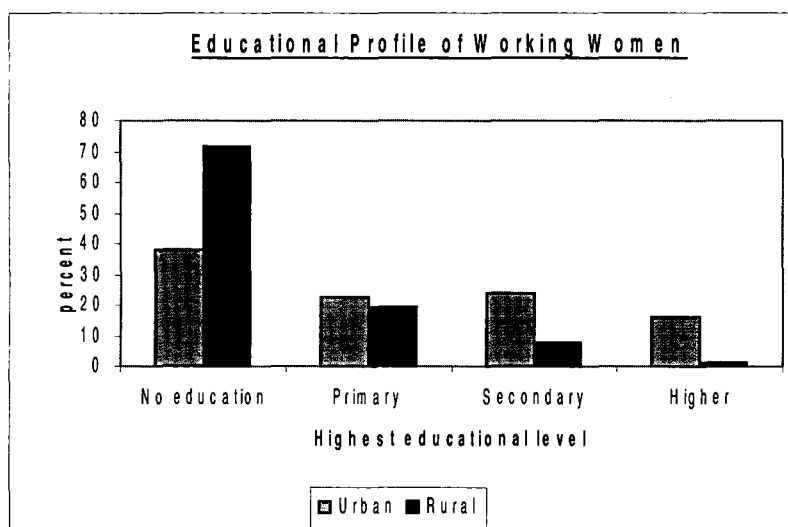


Source: NFHS-II, West Bengal

Educational Status of women

The following chart shows rural-urban differences in educational status among working women. It is evident from the chart that in rural West Bengal, most of the women who work have no (71.37%) or only primary education (22.3%) as compared to the working women in the selected urban areas of Bengal. The urban areas flaunt 16% of working women having attained higher education as compared to only 1.3% of rural women. This observation in a way explains the difference in the very nature of women's occupation in the two areas- rural and urban, as discussed earlier.

Figure 3.5: Educational Profile of Working Women, West Bengal



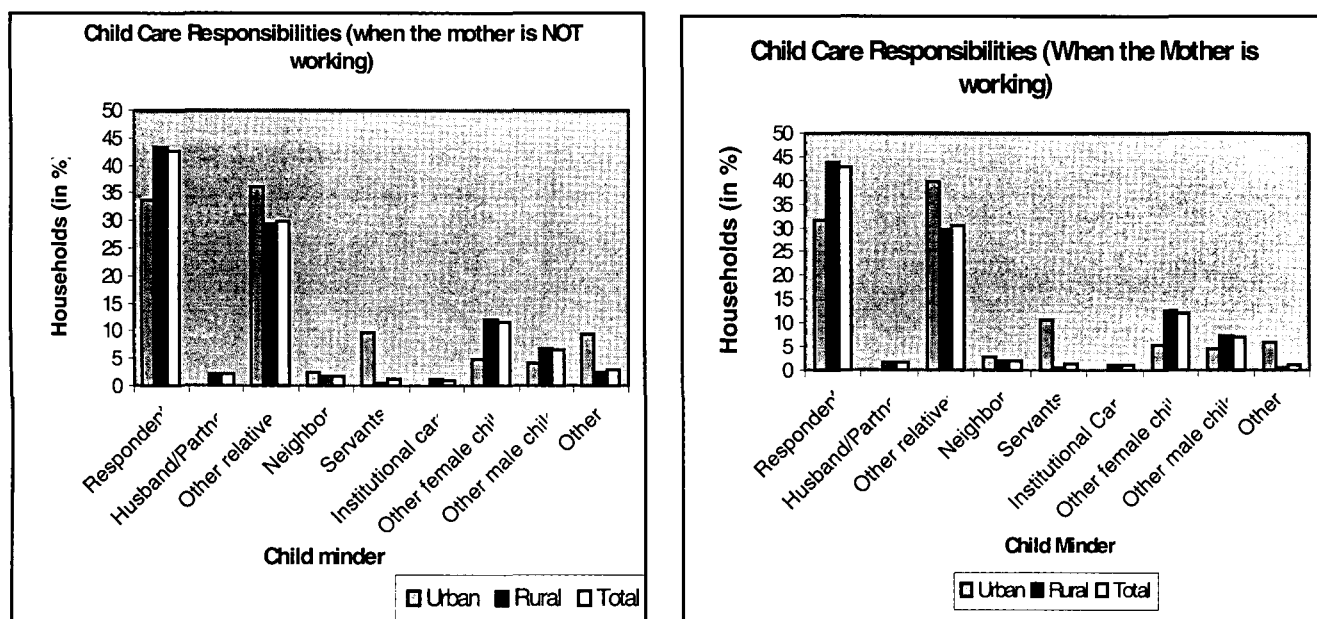
Source: NFHS-II, West Bengal

Child Care responsibilities

The following graphs show how the burdens of child care responsibilities being shared by different household members and neighbors. The attempt is to tease out whether there are any differences in child care responsibilities between working and non-working women. Interestingly, we find that there are no major differences in the child care responsibilities when the women are compared according to their work status. This highlights the much debated fact that employment of women is in addition to their traditionally ascribed roles. Also, in both the cases, it is evident that the female child carries a disproportionate burden of childcare, irrespective of the fact

whether the mother is at home or not. This also justifies many of the earlier studies done by authors over the years, about the alternate childcare provider being the older sister in poor households (Engle, 1989; Paolisso, 1989; Basu and Basu, 1991; Kishore and Parasuraman, 1998). For details, see Appendix to this chapter.

Figure 3.6: Charts showing differences in child minding responsibilities of working and non-working women, West Bengal



Source: NFHS-II, West Bengal

Immunization of child

The following table shows immunization of child for both working and non-working women. The table points out that though the difference in outcome is very marginal, but contrary to the much-expected results, we find that working mothers have higher percentage (67.43) of children being immunized than non-working women (63.79).

Table 3.4

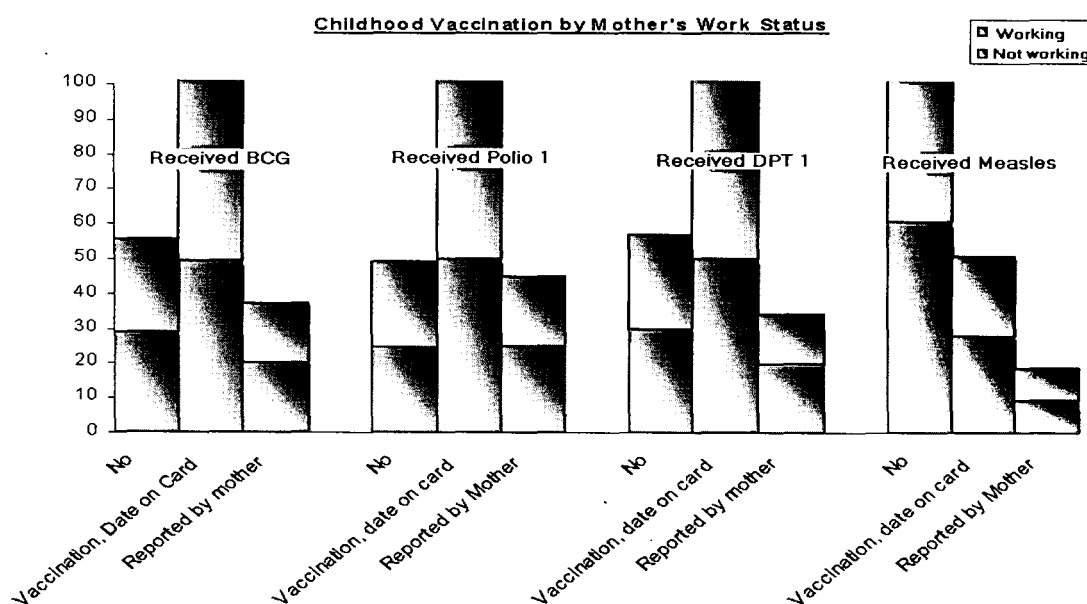
Analyzing children's immunization by mothers' work status, West Bengal

Respondent Currently working	Received Immunisation		
	No	Yes, received	Total
No	35.74	63.79	100
Yes	32.57	67.43	100
Total	34.89	64.77	100

Source: NFHS-II

The following Chart lists the different types of vaccinations given to the child for both working and non-working women. The attempt is to investigate whether there are substantial differences in outcomes when the mother is working, as claimed by most of the earlier studies (Sivakami, 1997; Berman, et al, 1997). For a detailed break-up by percentages, refer to Table 3, Appendix..

Figure 3.7: Childhood vaccination by mother's work status, West Bengal



Source: NFHS-II, West Bengal

However contrary to the results and conclusions in some of the earlier studies, we find from the above Table that working women in our sample have taken more initiative to take their children for vaccinations. Also the variable 'reported by mother' in each

category of vaccination shows that they are substantially higher than the non-working women, except for the 'measles' category. Hence we cannot claim that children of working women stands disadvantaged as far as their immunization status is concerned.

II. Focus on the Mother: Treatment patterns

Place of Delivery

The Table shows how the 'place of delivery' options differ between rural and urban women. Rural women usually prefer their own homes and their parental homes for delivery as compared to women belonging to the urban areas, where most of the delivery takes place in the Government hospitals.

Table 3.5
Place of Delivery Options for Working Women, West Bengal

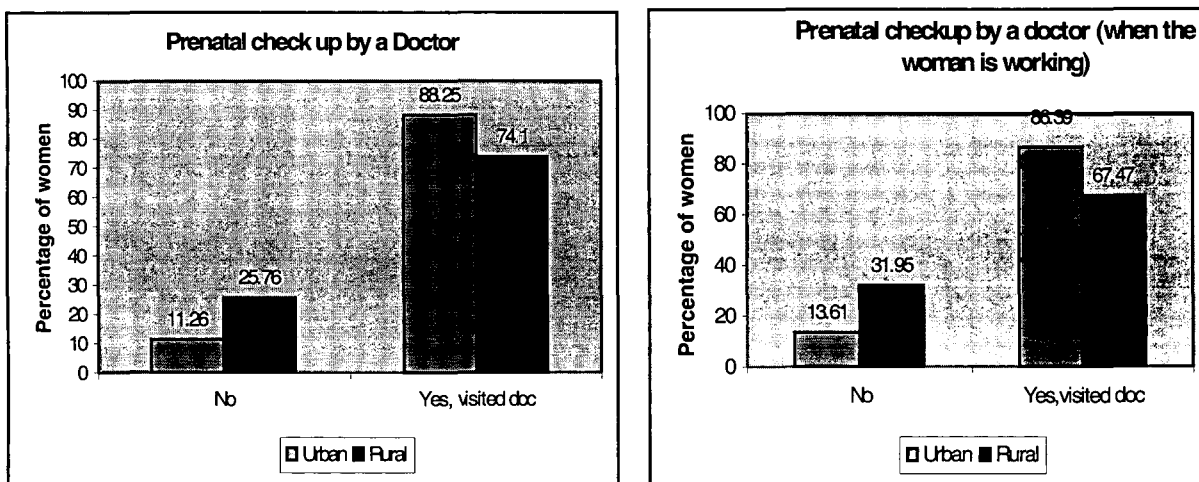
Type of place of residence	Place of Delivery							Total
	Respondent's home	Parent's home	Govt. hospital	Other Public	CHC/rural hospital/PHC	Private Hospital/Clinic	NGO/trust hospital/clinic	
Urban	33.51	1.285	52.06	0	0	11.76	1.382	100
Rural	50.86	15.89	17.36	1.547	6.378	1.634	1.618	100
Total	47.83	13.34	23.41	1.278	5.267	3.399	1.577	100

Source: NFHS-II, West Bengal

Prenatal Check up: Doctor

It is found in the sample that lesser number of working women had gone for prenatal check-up as compared to non-working women (Table VI, Annexure). When the disaggregation is done on the basis of rural and urban women, the Tables reveal a different picture. The graphs and the tables show that the incidence of prenatal check up by a doctor falls when the woman is working for both urban and rural areas. However the fall is sharper in case of rural working women, from 74% to 67% as compared to 88% to 86% in the case of urban working women.

Figure 3.8: Prenatal Check-up- A comparison between working and non-working women

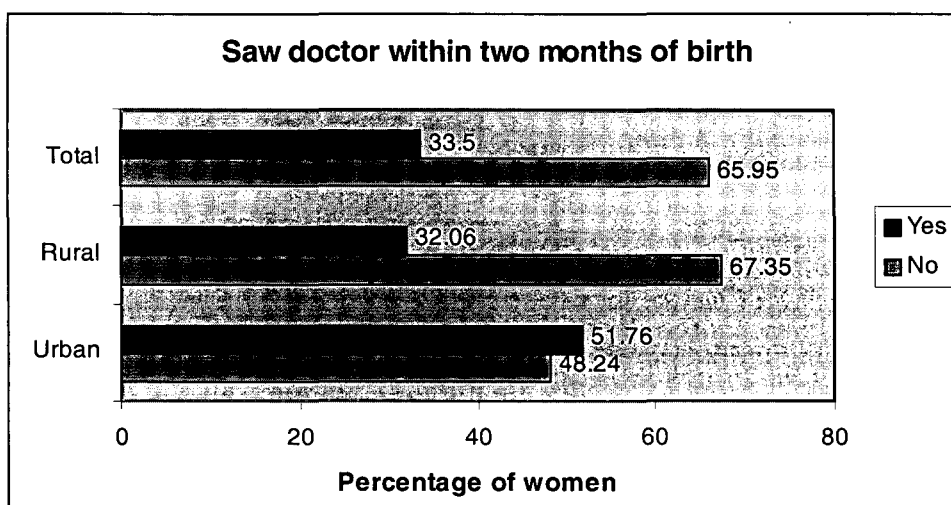


Source: NFHS-II, West Bengal

Saw Doctor within two months of birth

The graph brings out clearly that rural women lack awareness and initiative as far as postpartum care is concerned. This may be because of a host of factors, inadequate awareness campaigns, poor health care infrastructure and difficulties in accessing basic health care services being some of them.

Figure 3.9: Postpartum Care- A spatial comparison, West Bengal



Source: NFHS-II, West Bengal

III. Discussion

Thus the above exercise definitely sets the stage for a further analysis of the available data. From the above analysis we find that there sufficient differences between rural and urban areas, as far as variables concerning working and non-working women are concerned. Some of the health care indicators discussed to understand the plight of rural working women also reveals a grim reality. Further analysis, focussing more on the determinants, would do much to clarify the relationship between a woman's role as a mother and her role as a producer. In particular, it should help to identify the social and economic conditions under which women's income-producing work results in healthier, better-nourished children and those conditions under which it fails to do so.

However it should be recognized that 'working' is a capability indicator which gets shaped not only by individual characteristics but also by household conditioning and characteristics. Hence in order to refine our thoughts further, in our pre-occupation to investigate the causality, the attempt in the next section has been to try and understand the household and social determinants which affect the 'working' status of the women. This is what we do in the next chapter, followed by a Logistic Regression Analysis which provides a confirmatory test for the observations made so far.

Appendix 3

The appendix sums up the above discussion with some relevant cross-tables and charts.

Table A.3.1

Type of place of residence	Works at home OR away		
	At home	Away	Total
Urban	33.79	65.64	100
Rural	32.17	67.44	100
Total	32.42	67.16	100

Female Work Pattern by place of residence, West Bengal

Source: from NFHS-2, West Bengal unit record data
Notes: All figures expressed in percentages

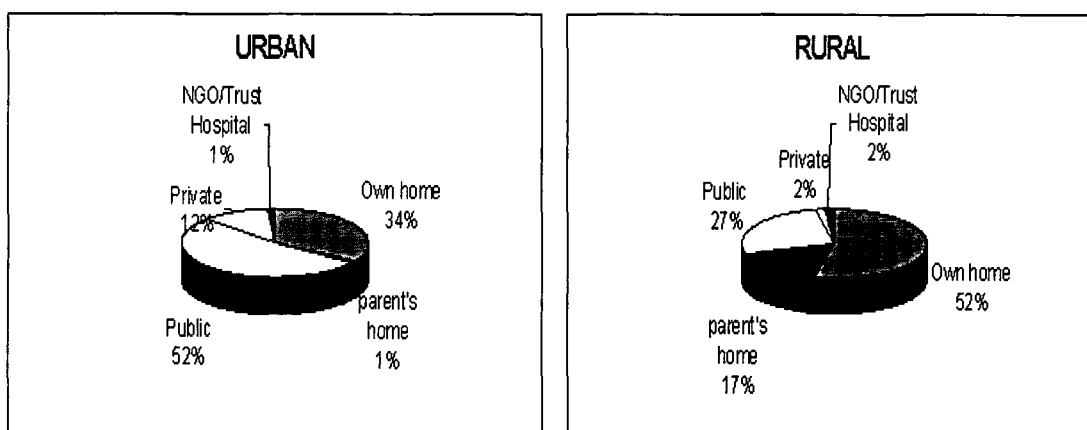
Table A.3. 2

**Female Work pattern by place of residence,
disaggregated by age, West Bengal**

Age five-year groups	Type of residence		
	Urban	Rural	Total
15-19	3.671	10.27	8.696
20-24	13.43	20.15	18.55
25-29	19.69	20.29	20.15
30-34	18.15	16.54	16.92
35-39	17.55	14.88	15.51
40-44	15.93	9.594	11.1
45-49	11.56	8.285	9.065
Total	100	100	100

Source: Calculated from NFHS-2 Unit record data

Figure A.3.1: Place of delivery options for working women



Source: NFHS-II, West Bengal

Table A.3.3
Child Vaccination and Mother's Work Status

Types of Vaccination	Respondent Currently Working	
	No	Yes
Received BCG		
No	28.95	26.64
Vaccination, date on card	49.49	55.27
Reported by Mother	20.08	16.86
Vaccination, marked on card	0.6716	0.1044
Received POLIO 1		
No	24.41	24.61
Vaccination, date on card	49.96	54.49
Reported by Mother	25.17	19.68
Vaccination, marked on card	0.4361	1.222
Received DPT 1		
No	29.65	26.85
Vaccination, date on card	49.93	56.19
Reported by Mother	19.67	14.61
Vaccination, marked on card	0.4361	0.6633
Received Measles		
No	60.69	65.29
Vaccination, date on card	27.72	22.87
Reported by Mother	9.643	8.927
Vaccination, marked on card	0.0878	1.13

Source: NFHS-II, West Bengal.

CHAPTER 4

WOMEN'S WORK AND CHILD SURVIVAL A DISAGGREGATED ANALYSIS

4.1 An Age Disaggregated Contrast between working and non-working women, NFHS-II, West Bengal

In the previous chapter, the attempt was to see the gross differences between working and non-working women and then again disaggregating them with respect to the region of their stay (rural/urban). However in this section a conscious effort has been to identify the household conditionings under which the women work. Henceforth, the analysis is based only on the working women.

Table 4.1 shows current working status of the women in the sample. There is a marked difference in the work status between the age groups 15-29 & 30-44. This might hint at the fact that younger women find it difficult to go out to work given their burden of household duties and childcare responsibilities.

Table 4.1

Women's Work Profile by Age Category

Age 5-year groups	Respondent currently working		
	No	Yes	Total
15-19	85.07	14.93	100
20-24	75.17	24.66	100
25-29	72.19	27.81	100
30-34	69.6	30.4	100
35-39	64.99	34.78	100
40-44	69.07	30.66	100
45-49	79.33	20.67	100
Total	72.61	27.29	100

Source: Calculated from Unit- Record data of NFHS-2, West Bengal.

The above argument becomes quite evident when we look at Table 2 which shows women in the age groups 15-29 have more number of children under five than the women in the age groups 30-49. The outcome (incidence of having a child under five declines as the woman's age increases) though quite an expected one, definitely points out to the gender stereotyping of woman's dual role as a mother and a producer.

Table 4.2

Number of children 5 and under for working women categorised by age

Age 5-Year groups	Number of children five and under of working women						Total
	0	1	2	3	4	6	
15-19	32.3	39.1	19.1	4.7	0	4.8	100
20-24	20.7	37.7	32.2	6.0	2.0	1.4	100
25-29	39.3	40.4	16.2	2.9	1.1	0	100
30-34	63.5	22.5	10.0	4.0	0	0	100
35-39	74.1	19.1	5.0	1.8	0	0	100
40-44	81.4	11.5	6.1	1.1	0	0	100
45-49	80.7	14.7	3.0	1.7	0	0	100
Total	55.4	26.9	13.5	3.2	0.6	0.46	100

Source: NFHS-II, West Bengal.

The following table (See Table 4.3) shows that mostly younger women in the age groups 15-29, prefer working at home, which again hints to their child care responsibility, that does not always permit them to work away from home. The table also shows that as the woman grows older, her mobility to work away from home increases systematically from 65 per cent to almost 75 per cent.

Table 4.3

**Percentage of Women working At home or Away
(disaggregation by Age-category)**

Age 5-Year groups	Works at home or away		
	At home	Away	Total
15-19	34.6	65.4	100
20-24	34.8	65.2	100
25-29	35.7	64.3	100
30-34	36.2	63.8	100
35-39	27.9	71.2	100
40-44	26.1	72.9	100
45-49	23.5	74.8	100
Total	32.0	67.6	100

Source: NFHS-II, West Bengal.

Table 4 shows households where women work which have more than 10 members. Among the age groups 20 -24 and 25-29, are the women who come out for work having quite big families. This can be interpreted in two ways- they might have proper alternative child care provider at home, given the size of their families and also it might point out to poverty related adverse conditions, because of which the woman has to come out for work and support the family.

Table 4.4
Family Sizes of the Working Women - A descriptive Table

Age 5 year groups	Number of household members in households where women are working									
	11	12	13	14	15	16	20	23	34	Total
15-19	49.74	0	0	0	0	0	16.66	33.6	0	100
20-24	37.63	0	0	26.1	0	0	0	24.18	12	100
25-29	35.71	26.64	5.54	0	14.22	8.94	0	0	8.9	100
30-34	17.47	0	0	33.69	5.07	29.18	14.6	0	0	100
35-39	0	0	35.42	57.89	0	6.687	0	0	0	100
40-44	50.16	11.56	0	38.28	0	0	0	0	0	100
45-49	0	91.62	8.382	0	0	0	0	0	0	100
Total	32.75	13.17	4.182	18.94	4.573	7.486	4.693	9.463	4.7	100

Source: NFHS-II, West Bengal.

An attempt to see the educational profile of the working women reveals interesting results (See Table 4.5). Majority of younger women in the age groups, 20-24, who go out to work have either primary or secondary education as compared to women in the age groups 35-39 and 40-44. In the latter age group, we find more number of working women having done higher education as compared to the former age groups.

Table 4.5
Educational Profile of the workingwomen

Age 5-year groups	Highest educational level				
	No education	Primary	Secondary	Higher	Total
15-19	4.894	3.885	7.178	0	4.757
20-24	16.03	19.27	20.69	4.971	16.76
25-29	19.88	18.65	29.27	17.62	20.53
30-34	19.02	21.46	13.58	16.68	18.85
35-39	20.04	19.77	14.96	28.57	19.77
40-44	11.72	14.06	10.01	24.89	12.47
45-49	8.423	2.905	4.312	7.27	6.864
Total	100	100	100	100	100

Source: NFHS-II, West Bengal.

In the following two tables (See Table 4.6 and Table 4.7), no notable difference has been observed when comparison is done between different sets of age groups. Both the age groups 20-29 and 30-49, have almost identical household and employment characteristics, when the two chosen indicators were used.

Table 4.6

An idea of the Household Profile of the Women who work

5 year age groups	Number of eligible women in the households							Total
	1	2	3	4	5	6	7	
15-19	50.93	27.56	14.31	2.385	0	4.809	0	100
20-24	67.39	21.53	8.909	0	0.124	1.365	0.6823	100
25-29	85.65	8.93	4.315	0.5526	0	0	0.5571	100
30-34	87.23	8.027	3.935	0.8067	0	0	0	100
35-39	79.91	16.35	3.642	0.1055	0	0	0	100
40-44	71.15	27.46	1.389	0	0	0	0	100
45-49	63.46	27.95	6.934	1.653	0	0	0	100
Total	76.77	16.84	5.171	0.5133	0.0208	0.4575	0.2287	100

Source: NFHS-II, West Bengal.

Table 4.7

Nature of Employment for Working Women

Age 5-year groups	Current type of employment							Total
	Did not work	Paid employee, away	Paid employee, home	Self-employed, away	Self-employed, home	Unpaid worker, away	Unpaid worker, home	
15-19	82.4	7.2	4.0	2.1	2.3	1.8	0.4	100
20-24	73.9	12.5	5.4	3.4	2.7	1.0	1.1	100
25-29	71.4	12.0	5.3	4.7	3.8	1.5	1.1	100
30-34	68.1	11.8	6.2	6.3	4.3	2.1	1.2	100
35-39	64.0	17.4	4.7	6.3	3.8	2.1	1.3	100
40-44	68.5	14.1	3.4	6.8	3.9	1.9	1.0	100
45-49	79.1	10.6	3.5	2.4	0.9	2.5	0.7	100

Source: NFHS-II, West Bengal.

In the next two tables (Table 4.8 and 4.9), we try to examine whether there is any substantial difference in the immunization status of children for mothers of different age groups. The No clear pattern emerges from the following tables, rather we find a very mixed outcome, with fewer number young mothers in the age groups 15-29 going for at least one kind of vaccinations for their children as compared to working mothers in the age group 30-34. The outcome is very puzzling when we look at Table 9, where more number of young mothers in the age groups (15-29) going for immunization than mothers in the age groups 30-49.

Table 4.8

Working women who had gone for vaccination for their children

Age Five-year groups	Ever had vaccination		
	No	Yes	Total
15-19	64.48	35.52	100
20-24	48.17	51.83	100
25-29	51.01	48.99	100
30-34	41.89	58.11	100
35-39	69.26	30.74	100
Total	51.14	48.86	100

Source: NFHS-II, West Bengal.

Table 4.9

Working women who have received immunization for their children

Five-year age groups	Received Immunisation		
	No	Yes, received	Total
15-19	31.11	68.89	100
20-24	18.96	81.04	100
25-29	27.12	72.88	100
30-34	35.76	64.24	100
35-39	52.2	47.8	100
40-44	74.33	25.67	100
45-49	100	0	100
Total	32.57	67.43	100

Source: NFHS-II, West Bengal.

Attempt has been made to understand how working women in different age groups take care of the problem of child minding while they are at work. Interesting as the following table suggests, that inspite of working, majority of women have to bear the burden of child minding and care, with younger women bearing the brunt more (See column 1 of Table 4.10). This points out to the fact that employment of women is in addition to their traditionally ascribed roles as suggested in the gamut of studies, dealing with women's work. The working women also seemed to be helped by neighbors, though at this juncture nothing can be said about the quality of care received when the child is looked after by neighbors and relatives. Also the Table shows that the female child at home bears a disproportionate burden of childcare, and the burden increases, as the mother grows older. This also justifies many of the earlier studies done by the authors over the years, about the alternate childcare provider

being the older female sibling. The table also reveals that hired help or providing any kind of institutional care for children is almost a rarity for the women who work in West Bengal.

Table 4.10
Child Minding Responsibilities for the Working Women- A Descriptive Table

Five Year Age groups	Child Minder when the woman is working									Total
	Respondent	Husband/ Partner	Other relatives	Neighbors	Servants/ hired help	Institutional Care	Other female child	Other male child	Other	
15-19	41.4	0	53.4	5.2	0	0	0	0	0	100
20-24	43.8	1.3	41.4	2.9	1.32	0	5.3	3.9	0	100
25-29	43.4	2.1	21.2	0.4	0	4.2	11.2	11.6	3.8	100
30-34	42.6	3.7	10.6	0	0.7	0	31.1	11.4	0	100
35-39	36.3	0	0	0	12.4	0	41.4	10.0	0	100
Total	42.8	1.67	30.45	1.88	1.35	1.13	12.12	6.99	1.01	100

Source: NFHS-II, West Bengal.

The reason why working women do not go for hired help or provide any institutional care for their children is quite evident when we consider their household standard of living index. Most women who work in the State belong to a low-income household, with a higher percentage of younger women coming from poor economic backgrounds. The table clearly shows that working women belonging to high-income household is abysmally low in the sample. The situation is marginally better for women in the age groups 40-49.

Table 4.11
Household Standard of Living Index (SLI) for Working Women

Age five-Year groups	Household Standard of Living Index for women who work			
	Low	Medium	High	Total
15-19	67.7	25.2	2.4	100
20-24	63.4	30.2	1.6	100
25-29	64.7	30.5	3.7	100
30-34	67.6	27.5	3.2	100
35-39	62.1	30.5	6.2	100
40-44	56.2	32.3	7.9	100
45-49	55.4	31	10.0	100
Total	62.9	29.9	4.6	100

Source: NFHS-II, West Bengal.

In the next few tables the attempt has been to try and understand the disposability quotient of the working women in the sample. From Table 4.12, it can be said in broad terms that younger women who work do not have much decision making power on the spending potentials of earnings as compared to relatively older women. For younger women (defined by age groups 15-29) the decision of spending rests mainly on the husband .

Table 4.12
Working Women's Autonomy in Spending Decisions

Age 5-Year groups	Who decides how to spend money when the woman is working					Total
	Respondent	Jointly with Partner	Jointly with someone	Someone else	Jointly with someone	
15-19	24.1	51.3	8.1	5.5	10.9	100
20-24	32.0	39.8	19.3	1.5	7.4	100
25-29	53.0	33.1	10.1	0.7	3.1	100
30-34	50.6	33.9	13.9	0.7	0.9	100
35-39	62.9	26.7	9.7	0.76	0	100
40-44	67.9	17.4	12.1	0	2.6	100
45-49	56.0	26.2	9.7	0	8.2	100
Total	51.6	31.5	12.5	0.95	3.5	100

Source: NFHS-II, West Bengal.

The above table gives the motivation to explore into depth how at all working women take decisions regarding health-related aspects of their children and themselves. Table 4.13 shows that inspite of being in their reproductive age, there is a marked lack of initiative and negligence on the part of the younger women to seek medical treatment for them. However interestingly we find that there is not much difference in outcomes between younger and relatively older women, when treatment of their sick children is concerned (See Table 4.14).

Table 4.13
Working Women's Treatment Patterns- for self

Age 5-year groups	Working women who went for medical treatment for self		
	No	Yes, went	Total
15-19	67.2	32.8	100
20-24	77.0	23.0	100
25-29	71.2	28.8	100
30-34	58.4	40.3	100
35-39	42.6	57.4	100
40-44	32.6	67.4	100
45-49	23.7	76.3	100
Total	61.1	38.6	100

Source: NFHS-II, West Bengal

Table 4.14

Working Women's Treatment Patterns- For their children

Age 5-Year groups	Working Women who went for treatment for their sick children		
	No	Yes, went	Total
15-19	73.02	26.98	100
20-24	59.17	40.83	100
25-29	53.11	46.89	100
30-34	54.31	44.34	100
35-39	53.61	46.39	100
40-44	60.32	39.68	100
45-49	56.93	43.07	100
Total	56.91	42.83	100

Source: NFHS-II, West Bengal

Contrasting results are found when we consider working women's contribution to family earnings in the sample. Interestingly, younger women in the sample seem to keep their earnings with themselves, as their contribution to family earnings is either "less than half" or "almost none" (See table 4.15). This is in stark contrast to women in age groups 30-49. However this doesn't necessarily imply well being of younger women, as it might well be the case that these women are actually earning a very meager amount given their low educational qualification and the fact that they mostly work at home.

Table 4.15

Contribution to Total Family Earnings by Working Women

Age five year groups	Contribution to total family earnings by currently working women					
	Almost none	Less than half	About half	More than half	All	Total
15-19	30.7	43.99	11.38	5.932	7.998	100
20-24	21.5	35.86	11.47	10.48	20.68	100
25-29	17.99	32.62	11.51	14.37	23.51	100
30-34	17.1	31.5	11.14	9.577	30.68	100
35-39	14.88	30.96	13.05	9.527	31.59	100
40-44	11.62	19.66	9.643	17.18	41.71	100
45-49	17.7	23.73	17	8.488	33.08	100
Total	17.59	30.97	11.86	11.42	28.13	100

Source: NFHS-II, West Bengal.

Discussion

All along the above illustrations with tables, the attempt has been to investigate into depth the conditions under which women work in West Bengal. Efforts have been made to categorize working women into two sets of groups and then compare the outcomes between women working in adverse¹ conditions vis-à-vis women working in somewhat better conditions. It is quite evident from the above discussions that women in the age groups 15-29 work more under the *adverse* conditions than women in the age groups 30-49. Apart from the adverse conditionings, there are other factors like poor educational qualifications and unpaid home-based work that might have bearing on the working status of these women. The above analysis brings out some interesting contrasting outcomes- younger working women do not have much say on household spending decisions, hence it can be expected that she has lesser influence over the allocation of income. But surprisingly a peek at their contribution to total household earnings show that they contribute almost nothing or in some cases less than half. However analysis also brings out that younger women neglect their own health but they are conscious about the health aspects of their children. This kind of analysis might help us to identify situations in which the child's welfare was being purchased at the expense of the mother's. The above analysis have made attempts to combine demographic factors within the household and other socio-cultural and economic factors outside it as these affect a woman's ability to contribute to child welfare along with the major determinants of time, income, influence on income allocation and knowledge.

By *adverse* conditions, I mean:

- More number of children 5 and under
- Belonging to households which has 'low' Household Standard of Living Index
- Belonging to families which has more than ten dependent persons
- Not much say on household spending decisions
- Incidence of going for a medical check-up for self is low
- The workingwoman herself being the child minder.

In the previous sections, differences between working and non-working women's time spent on children, immunization coverage and morbidity were examined. In most cases, the gross difference that is without controlling for background variables were presented. However in an earlier section it was noted that working and non-working women differ with respect to income (captured by Household Standard of Living Index), education, etc. factors which could plausibly influence child health-care and hence survival. Therefore there is a need to have a multiple regression approach to see the extent to which the work status of the mother influences child health and child care. That is what we go on to do in the next and the final chapter.

4.2 Dimensions of Women's Autonomy and the influence on Maternal Health Care Utilization in West Bengal- A mathematical exercise

The female disadvantage in less developed countries with regard to health and well-being has been documented abundantly (Santow 1995). However much less research has focused on the relationship between women's status and the use of health services, a proximate determinant of maternal and child mortality (McCathy and Maine, 1992; Mosley and Chen 1984)⁶. Thus based on the above cross tables, we try to construct the following Indices to get a closer look at the women's status in an intra-household set up. The motivation of this simple exercise is to try and understand women's status not only in the terms of their work, but also how gender roles affect a woman's decision making power as far as their health and autonomy is concerned. Two sets of Indices have been constructed. The variables used in the construction of each of the Indices are discussed in detail in the Appendix to this Chapter..

Women's Autonomy Index

While women value prestige, it is the level of personal autonomy that appears to influence demographic behaviour and resulting outcomes (Basu 1992; Jejeebhoy 1991). Autonomy has been defined as the capacity to manipulate one's personal environment through control over resources and information in order to make decisions about one's own concerns or about close family members. (Basu 1991; Dyson and Moore, 1983;

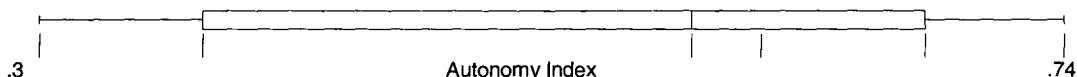
Miles-Done and Bisharat, 1990). In the present study we use the term autonomy- or interpersonal control- as defined by these authors.

Table 4.16: Working Women’s Autonomy Index

agegrps	Autonomy Index	Rank
15-19	0.30	2
20-24	0.37	3
25-29	0.58	4
30-34	0.58	4
35-39	0.74	7
40-44	0.61	5
45-49	0.68	6

Source: Index calculated from the unit-record data of NFHS-II, West Bengal

Figure 4.1: One-way Box Diagram showing Autonomy Index, West Bengal



Source: Calculated from Unit-record data of NFHS-II, West Bengal, 1998-99

Index values closer to one, are considered to be better situations. Hence we find that women in the age-group 35-39 are better off while women in the age-group 15-19 are worse off , as far as autonomy index is concerned. In general, women become autonomous as they age. As a mediating factor, household structure intensifies the direction of this effect: as women grow older, they move out of extended-family situations that impede their authority (Bloom, S et al, 2001). Das Gupta (1981, 1990)

⁶ For a detailed study on these issue, see Bloom, S, David Wypij and Monica Das Gupta (2001): “Dimensions of Women’s Autonomy and the Influence on Maternal Health Care Utilisation in a North Indian City”, *Demography*, Vol 38, No. 1, pp. 67-78.

voices similar thoughts when she says that in patrilineal societies, a woman's autonomy is lowest when she is a young married woman. The author argues that a young bride is surely constrained by being at the bottom of her husband's household's authority structure. She further points out that perversely this point of the life cycle overlaps with a woman's peak child bearing years, so a woman wields least authority at the most important for her children's health.

We also construct a Biomaternal Conditions Index for working women by age category to get a better understanding of their access to health care. The procedure of construction of the Index and the variables selected are detailed in the Appendix to this Chapter. Index values closer to one are considered to be better situations.

Biomaternal Conditions Index

Table 4.17 reveals that the Index does not show any systematic pattern of outcomes over age. For the age group 15-19, the index value is the highest, while it is worst for the age group 25-29. One can justify this curious result by explaining that since most of the variables chosen for the Index calculations have post-reproductive and contraceptive consequences, women in the age groups 15-19 and 35-39 lie outside the analysis. Also it is studied by several authors that for older women exposure to health system worsens at this particular age. Hence this aberration in the result. However what comes out clearly from this exercise is that working women in the age groups 20-29 face the maximum burden of reproduction and child care, which should be a matter of concern for policy makers at large.

Table 4.17

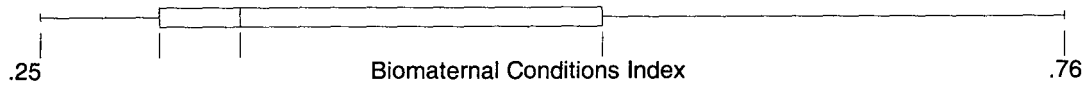
Working Women's Biomaternal Condition Index

Age Groups	Biomaternal Conditions Index	Rank
15-19	0.76	5
20-24	0.35	3
25-29	0.25	1
30-34	0.53	4
35-39	0.31	2

Source: Index calculated from the unit-record data of NFHS-II, West Bengal.

A diagrammatic exposition has been attempted for the Biomaternal Conditions Index. Figure 4.2 sums up the above explanation.

Figure 4.2: One-way Box diagram showing Biomaternal Index, West Bengal



Source: NFHS-II, West Bengal.

4.3 Women's Work and Child Survival: A Multivariate Logistic Regression Analysis

In the previous sections, we have analyzed the effect of women's work including the nature of work on their own and on their children's well being without controlling the confounding variables. In this section, an attempt is made to assess the effect of women's work on the well being of their children after controlling for the household conditionings using the multivariate logistic regression analysis. In addition, the effects of social and economic indicators which affect women's working status and hence have a bearing on the child survival, has also being examined.

4.3 a. Multivariate Logistic Regression Model Specifications and Variable Description

The logistic regression model is useful when the dependent variable takes only two values '0' and '1'. When we have dichotomous dependent variables, the multivariate regression analysis is not suitable to test the hypothesis due to the violation of assumptions as well as difficulties in interpreting co-efficients.

The multivariate logistic regression models take the following form

$$P(Y = 1) \text{ or } P = 1 / [1 + e^{- (b_0 + b_1 x_1 + b_2 x_2 + \dots + b_p x_p)}]$$

Where b_1, b_2, \dots, b_p are the coefficients and

x_1, x_2, \dots, x_p are the independent variables.

The coefficients b_1, b_2, \dots, b_p are estimated using maximum likelihood method.

$P / (1 - P)$ is the odd ratio, which is basically the ratio of the probability that an event will occur to the probability that it will not occur. The coefficient b_1 tells us that for one unit increase in x_1 , the corresponding increase in the log of odd ratio.

Dependent variables

The dependent variables used in this analysis take the following form

$Y_1 = 1$, if a woman has experienced child loss⁷

= 0, otherwise.

Independent variables

The independent variables are classified into two groups: Contextual Characteristics and Women's Characteristics.

Contextual Controls

Region

$X = 1$, if place of residence is Urban

= 0, if otherwise

Household Standard of living Index

$X = 0$, if Low

= 1, if Medium

= 2, if High

Ethnicity

$X = 0$, if None of them (General Caste)

= 1, if Scheduled Caste

= 2, if Scheduled Tribe

= 3, if other Backward caste

⁷ The dependent variable, Experience of Child Loss (EXChL) has been defined as Total number of children ever born \sim Total number of children living.

Number of Household Members

- $X = 0$, if number of household members is less than the median value
= 1, if number of household members is greater than the median value

Number of children aged 5 and under

- $X = 0$, if there is no child at home who is five and under
= 1, if there is one child at home who is five and under
= 2, if there are two children at home who are five and under
= 3, if there are three children at home who are five and under
= 4, if there are four and more children at home who are five and under (4-6)

Women's Characteristics

Highest level of education

- $X = 0$, if no education/Illiterate
= 1, if primary education
= 2, if secondary education
= 3, if Higher education

Work Status

- $X = 1$, if the woman is currently working
= 0, otherwise

Nature of work

- $X = 1$, if the woman earns cash for work
= 0, otherwise

Work at home or away

- $X = 1$, if the woman is working at home
= 0, if otherwise

The selection of the explanatory variables was based on their theoretical and empirical importance as born out by the literature, while explaining the relationship between women's work and child survival on the one hand, and their availability in the NFHS data set on the other.

Demographic Characteristics

Age of the women, which is an important predictor for testing the relationship between child survival and mother's work, is treated as a control variable. Number of children aged five and under is also taken to be an explanatory variable. It is generally believed that mother's working status has an important bearing for children who fall in this age category. Breastfeeding and immunization initiatives by the mother have much to do with the health outcomes of the child. Hence there is a need to examine how children in this age category fare when their mothers are at work.

Socioeconomic characteristics

There is Ofcourse, widespread awareness that the mother's abilities are important for the child's health, as evidenced in the discussion of the role of the mother's education. Improved mother's education raises child survival through complex mechanisms, which has been extensively reviewed by Ware (1984). Hence it is well established that educated and working mothers are more likely than uneducated and non-working mothers to take advantage of health care services (Caldwell et al, 1983; Mencher, 1988, Govindasamy etal, 1997). Hence we have considered educational level, work and nature of work indicators as explanatory variables to test these popular hypotheses. Place of residence has been included in the analysis to capture the degree of availability and accessibility to health care facilities. Ethnicity has also been included as a community factor that could facilitate or hinder health-seeking behaviour of members of the community. Standard of living Index was considered in the analysis to basically test the poverty mediation hypothesis as claimed in many of the earlier studies exploring a relationship of this nature (Krishnaji, 1995; Desai and Jain, 1994).

The list of the variables used in the analysis and their descriptive statistics is presented in Table 4.18

Table 4.18
Descriptive Statistics of variables used in the regression Analysis

Variable	N	Minimum	Maximum	Mean	Std Deviation
Experience of Child Loss(exchl)	4408	0	1	0.188	0.3915
Type of place residence (residence)	4408	0	1	0.558	0.4966
Women working at home (work_home)	4408	0	1	0.8053	0.2721
Women working away from home & earns cash (away_cash)	4408	0	1	0.1626	0.369
Women working away from home & earning no cash (away_nocash)	4408	0	1	0.0151	0.12236
Number of children five and under	4408	0	6	0.7005	0.9018
Number of household members	4408	1	34	5.995	3.3164
Age (in 5-Year groups)	4408	1	7	3.9344	1.7578

Table: 4.19

Estimated Odd Ratios from Logistic Regression Models

Dependent variable: Experience of Child Loss= Yes		
Explanatory Variables	Odd Ratios	
	Model 1	Model 2
CONTEXTUAL CONTROLS		
Region		
Urban (rc)	1	1
Rural	1.309*	1.311*
Standard of living Index		
Low (rc)	1	1
Medium	0.661	0.662
High	0.414	0.414
Ethnicity		
General Caste (rc)	1	1
Scheduled Caste	0.999	1.000
Scheduled Tribe	0.830	0.831
Other Backward Castes	0.850	0.853
Number of household members		
less than the median value (rc)	1	1
greater than the median value	1.053	1.053
Number of children 5 and under		
0 (rc)	1	1
1	1.323*	1.321*
2	1.181	1.178
3	1.184	1.184
4 and above	1.064	1.053
WOMEN'S CHARACTERISTICS		
Highest level of education		
Primary (rc)	1	1
Secondary	0.527	0.527
High	0.208	0.208
No education	1.312*	1.313
Nature of work		
Work at home	0.762	1 (rc)
Work away from home & earning cash	0.919	1.202
Work away from home & not earning cash	0.669	0.865
Not working	1 (rc)	1.322*
Age (in 5-year groups)	1.572	1.573
Number of observations	4408	4408
LR Chi 2 (18)	622.46	623.02
Pseudo R	0.1457	0.1458
Log Likelihood	-1825.4734	-1825.1941
rc = Reference Category		
* p< .01		

4.4 Summary of Results

An overwhelming number of micro and macro level studies have been done in the developing country context to study the effect of mother's work on child health status. Since the supportive role of public health infrastructure in strengthening the influence of mother's work on child health has not been very impressive in the State (See Chapters 2 and 3), there can be effectively two possible derivatives. On one hand, mothers' work may have an adverse impact on child health and on the other hand mothers' work could have a positive impact on child health and nutrition. Thus in the present study the conceptual basis of the Logistic Regression Analysis has been to redefine maternal work so as to explore which of the two routes of causation operate in reality.

Two models are estimated corresponding to alternative formulations of women's work. Both the models are controlled for all major correlates (see table 4.19). Since the major concern of the study is to understand the impact of the nature of mothers' work on child health status, contrary to the existing studies, 'work at home' has been taken as the reference category and response of 'experience of child loss' has been studied henceforth. Interestingly we find that children of non-working and mothers away from home but earning cash stand disadvantaged compared to children of mothers who work at home. This apparent complexity of the results brings out the fact that there is an absolute lack of clarity between the causation between women's work and child survival. More appropriately, the previous chapters of descriptive indication do confirm the nature of work and its bearing on child survival. The results of this study also show how the supportive roles of households neutralize the adversities of women's economically productive role.

In both the models we find that rural workingwomen are more likely to experience child loss than urban workingwomen are. Household standard of living index (SSLI) for both the models do not show any significant difference, although odd ratios suggest that women coming from households with 'low' SSLI are relatively more likely to experience child loss than women belonging to 'high' SSLI households. As for the variables 'number of household members' and 'number of children five and under', results seem to be in expected direction.. We find that there is a positive

association between experience of child loss and family size- women from larger household sizes are more prone to experience child loss than women hailing from smaller family sizes.

Similarly as suggested in most of the existing studies, women with no education are more likely to experience child loss than women having higher levels of education. Ethnicity did not seem to be a significant predictor for explaining experience of child loss among working women.

Appendix 4

Calculation of the Indices

Here it should be noted that the formula for calculating the Indices is that of the Human Development Index.

$$\text{Index} = (\text{Actual Value} - \text{Minimum value}) / (\text{Maximum value} - \text{Minimum Value})$$

Indicators that are taken in the construction of the *Working Women's Autonomy Index* are:

- Who decides how to spend money.....(a)
- Has gone for medical treatment for self.....(b)
- Has gone for medical treatment for the sick child.....(c)
- Contribution to the family earnings.....(d)

The Working Women's Autonomy Index construction has been done in the following way.

To arrive at the variable 'who decides how to spend money' (a), different weights were attached to the different options. *Highest* weight was attached to the option when the 'respondent' herself decides how to spend money and *lowest* weight was attached to the option when the respondent takes the spending decision 'jointly with someone else'.

Who decides how to spend money = (5* respondent herself + 4*partner + 3* jointly with the

Partner + 2* someone else + 1* jointly with some one Else)/5

Similar calculation process was followed while arriving at the variable 'Contributions to total family earnings' (d). In this case, highest weight was attached to the option 'almost none' and lowest weight was attached to the situation when the respondent is making the entire ('all') contribution to the total pool of family earnings. Here the assumption is made that the woman has control (proxy for autonomy) over her own earnings when she contributes nothing, than women who contribute their entire (all) earnings to the pool of family income

Contribution to total family earnings = (5* Almost none + 4* less than half + 3* about half

+ 2* more than half + 1* all)/5

The Working Women's Autonomy Index = [a + b + c + d]/4

The calculation procedure for *Biomaternal Conditions Index* is exactly the same, however here equal weights are attached to the selected indicators. The indicators used for construction of the above *Index* are:

- Has a Health Card.....(a)
- Has seen a doctor within two months of birth..... .b)
- Has gone to a doctor for pre-natal check-up..... (c)
- Place of delivery is at Government Hospital.....(d)
- Has taken three tetanus injections before birth.....(e)

Biomaternal Conditions Index = [a+ b+ c+ d]/4

Table: A.4.1

Percentage of Child loss by Contextual and Women's Characteristics

	<i>No</i>	<i>Yes</i>	<i>Pearson Chi2</i>	<i>P values</i>	
Non-Working Mothers	82.18	17.82	9.8916	0.007	
Work at home	82.54	17.46	0.5171	0.472	
Work away from home & earning cash	75.59	24.41	16.9609	0	
Work away from home & not earning cash	77.61	22.39	0.5409	0.462	
Number of household members less than the median value	80.33	19.67	1.3811(1)	0.24	
Number of household members greater than the median value	81.72	18.28	1.3811	0.24	
Education level- Illiterate	77.40	22.60	102.734	0	
Education level- Primary	90.75	9.25	102.733	0	
Education level- Secondary	96.27	3.73	76.364	0	
Education Level- High	70.91	29.09	188.506	0	
SSLI- low	79.63	20.37	7.7754	0.005	
SSLI- Medium	82.94	17.06	7.7754	0.005	
SSLI- High	92.20	7.80	82.485	0	
Number of children 5 and under =0	80.63	19.37	1.608	0.205	
Number of children 5 and under =1	82.27	17.73	1.608	0.205	
Number of children 5 and under =2	83.71	16.29	3.227	0.072	
Number of children 5 and under =3	82.44	17.56	0.158	0.691	
Number of children 5 and under = 4 and above	86.49	13.51	0.706	0.401	
Ethnicity= General Caste	82.66	17.34	15.099	0	
Ethnicity= Scheduled Caste	77.00	23.00	13.235	0	
Ethnicity= Scheduled Tribe	76.57	23.43	3.389	0.066	
Ethnicity=OBCs	83.96	16.04	1.038	0.308	
Age			278.121	0	

Note: percentages might not add to hundred owing to missing values

p< .01 implies significant at 10 per cent level

CHAPTER 5

CONCLUSION AND RECOMMENDATIONS

5.1. Major findings and Conclusions

It has been hypothesized by economists as well as demographers, that's women's ability to earn an independent income would enable them to attain higher well being for themselves and for their children. The underlying assumption is that women's participation in income generating work bestows upon them higher autonomy in terms of control over important decisions affecting their lives, and provides confidence and ability to use health care services as means to improve both their own as well as their children's lives. The validity of the assumption is likely to depend on the nature of women's work rather than work *per se*. Against this background, the present study attempted to trace out both individual and household characteristics, which might have a bearing on mothers' work and health status of their children. The twin existence of low female work participation rates and poor nutritional and health status of children in West Bengal appropriates the need for the present study.

It is evident from the previous discussion that the notion of women's work has been redefined to understand closely and accurately women's health in relation to work and social roles. Effort has been made to conceptualize and measure women's work by taking into consideration the multiple contexts of women's work. After a detailed analysis and discussion on the relevant issues concerning the causality between the mother's work and child survival, this study contributes some major findings in the context of West Bengal.

The results clearly indicate that there have been substantial regional variations in women's work characteristics and health outcomes in the State. Further results from the Multivariate Logistic Regression suggest that rural working women are more prone to lose a child than urban working women in the State. Also women belonging

to households with bigger household sizes are more prone to experience child loss. Results from the unit level data analysis show that in most cases the entire burden of childbearing falls on the mother (both working and not working) and at times the younger girl child at home shares this responsibility. The male partner takes very less responsibility in child caring tasks. This also makes a case to recognize the adversities a woman faces in a patriarchal intra-household setting. The results do indicate the need for appropriate measures towards sharing the burden of child-bearing and rearing roles of working mother to guarantee better child survival. These could include provision of childcare facilities and strengthening of the nursery schools in both rural and urban areas. Further policy recommendations are laid down in the section 5.3.

Certain limitations of the study have been pointed out in the next section. However in spite of the limitations, the findings of the study clearly make a strong case for greater attention given to working mothers and initiating policies, which might reduce the conflict between women's dual roles. The study does not entirely share the findings of existing studies that burdened with the responsibilities of earning livelihood for the family, women find it difficult to devote time to the children resulting in their risk of survival. But it has been increasingly felt that as the female participation in the labour force increases, appropriate arrangements for good childcare is needed to support any adverse household conditioning. This calls for adjustments at the familial level and policy measures at the societal level.

5.2. Caveats and Challenges for Future Scholarships

Certain limitations of the study should also be noted here. The sample size and coverage of the NFHS data set are small. One needs to revalidate whether the study findings hold true with a reasonably larger sample data obtained and designed specifically for this kind of an enquiry.

While trying to capture household conditioning, the study partially fails to take a closer look at the context and quality of conditioning. This is primarily because of unavailability of certain relevant information in the National Family Health Survey (NFHS) II. Certain variables that would have helped us to draw more meaningful

conclusions about the context, but are not captured in the survey of NFHS-II are

- Number of sick people at home of working women
- Number of disabled people at home for women who are working
- Number of school-going and non-school going children at home for working women.

Secondly, there is of course widespread awareness that the mother's abilities are important for the child's health, as evidenced in the discussion of the role of mother's education⁸. As well documented in literature, the present study did look into the relationship between mother's educational level and its bearing on child survival. However as Dasgupta (1990) points out, "it seems to be assumed that women's innate abilities are similar and that education acts exogenously to improve those abilities." The author argues that people's basic abilities are far from being the same, and while education can improve them, it does not make them homogenous. In her study of rural Punjab, she finds that the '*death clustering*' variable (proxy for 'unsatisfactory mothering'/incompetent motherhood) remains significant even after controlling for several biological and socio-demographic factors¹⁰. The present study fails to highlight the important influence on child health of the mother's abilities and competence in managing work and childcare. Amongst other things, we need to look at the role of factors not included in this analysis, such as genetic frailty, which might also be an important determinant of child loss for mothers. However in spite of the limitations, the findings of this study clearly make a strong case for rethinking and redefining some of the aspects of mother's work, childcare and maternal health. In the following section, this study points out some of the major challenges that researchers, health care providers, policy makers and others interested in promoting women's work and health research need to consider.

⁸ See J.C Caldwell (1979): "Education as a factor in mortality decline: an examination of Nigerian data", *Population Studies*, 33, pp. 395-413; Mosley, W.H and S. Becker (1988): "Demographic models for child survival: implications for program strategy", Paper prepared for the Seminar on 'Child Survival programs: Issues for the 1990s', John Hopkins University, Baltimore.

⁹ Dasgupta, M (1990) points out that there is strong evidence that child deaths tend to 'cluster' in families. This concept precisely means that at all stages of childhood, the probability of a child's dying is significantly increased if the child has siblings who died in childhood.

Rather than limiting the focus to how the number of activities, jobs, or roles may affect women's health, researchers also need to examine the extent to which women are able to choose their roles and organize the available resources to meet their demands (Messias, *et.al*, 1997). The authors feel that in examining the environmental contexts of women's work, researchers need to consider not only the physical and biological health hazards, but also the degree and quality of social relationships and connectedness in relation to well-being. The authors further point out that researchers and policy makers need to be attuned to women's work in terms of workloads, activities, environments, perceptions and attitudes and how these compare across culture, class and socialization process.

The authors point out that one major methodological challenge for research on women's work and health is precisely that terms such as *work*, *job*, *employment* and *health* have different meanings to different people. The authors feel that to be able to interpret the various aspects and relationships between women's work and child health, it is necessary to understand how different women themselves perceive both their work and their child health. The authors suggest suitability of qualitative methodologies to overcome stated limitations, which open windows on aspects of women's work lives usually missed by more quantitative approaches (Needleman and Nelson, 1988).

Hence the multiplicity, complexity and variation inherent in women's work lives constitute a major challenge to scholars interested in the relationships between women's work and child health. From a feminist perspective, the multiple contexts and dimensions of women's work, as well as the diversity and differences among individual women, need to be reflected in the conceptual frameworks, measurement instruments and policy decisions. In what follows next, we discuss the policy relevance of the present study.

¹⁰ For a detailed research on this issue see, J. Spence, W. S. Walton, F.J.W Miller and S.D.M. Court, *A Thousand Families in Newcastle upon Tyne* (London, 1954).

5.3 Policy Relevance and some recommendations

In terms of policy how work is defined still continues to determine health and social benefits as well as liabilities for women. Therefore women's work should be considered a pressing public health and policy issue for now and foreseeable future (Messias, *et al*, 1997). Scholarship based on extended definition of women's work is needed to guide health and social policies that acknowledge and value women's work and encourage and support community participation. In the next few sections I discuss policies that might contribute to the enhancement of both women's work and their own health, thereby favorably affecting health outcomes of their children.

Policies to reduce conflicts between women's dual roles

In the past, the androcentric definition of work has affected health and social policy in a number of ways. National policies have historically viewed women only in their roles as wives and mothers (Auerbach and Figert 1995). The authors over the years have felt that the most important women's health interventions over the past few decades have been on family-planning policies and programmes. Policy makers and professional health care providers repeatedly fail to acknowledge and value the time and energy women expend in taking care of family health care responsibilities and the implications for their own and children's health (Messias, *et al*. 1997).

The discussion in the previous sections heighten the importance of policies to address the conflicts women face between their need to work and their need to ensure the well-being of their children. Naturally improving women's access to decent childcare takes the center stage in the policy discussion. Since, most of the working mothers in the present analysis come from poor households (See Section 3.2, Figure 3.4); these women typically cannot afford private providers and are also unable to secure satisfactory family arrangements for care. Thus there is a high possibility that children of these women face nutritional risks through inadequate care. Since many or most poor families would be unable to pay for private services of this nature without reducing consumption below minimum levels, public sector involvement is necessary.

Gender equity is a second obvious rationale for government intervention in childcare. As noted in a previous section (See Section 3.2, Figure 3.6, *ChildCare Responsibilities*), women who enter the labour force continue to perform substantial amounts of childcare and other household work, meaning that their work time is 'financed' in large part by reductions in leisure (Glick, Peter, 2002). Hence publicly supported childcare can lead to greater gender balance in the overall burden of work.

By reducing the domestic work obligation of women, childcare policies can also have significant implications for economic efficiency (Glick, P 2002). Allocative efficiency requires that a factor of production such as labour be allocated so that its productivity at the margin is the same in alternative activities. Authors (Palmer 1991; Glick, P 2002) exploring the relationship between mother's work and child well-being argue that, allocative efficiency requires, women be free to allocate their labour between home and market-oriented productive work, which is something they cannot do when they are constrained to spend a given amount of their time in domestic tasks. Consequently, their labour will be undersupplied to the market economy and oversupplied to domestic work. Hence socialization of the cost of childcare eliminates or reduces such labour misallocations by relaxing the constraint of women's use of time.

Thirdly, also potentially benefiting from subsidized childcare are older siblings, mostly girls whose mothers work, since there will be less pressure on them to curtail their schooling to help out in the home. Given the fact that the present analysis showed a considerable number of families with Household Standard of Living Index being 'low', these households are likely to under-invest in girl's schooling. In view of the evidence that girls' access to education is strongly constrained by their domestic obligations, government intervention in the market for childcare holds promise as a particularly effective means of increasing girl's schooling¹¹.

Other policies

In a previous section the present study pointed out younger working women's limited autonomy over certain issues in an intra-household setup (See Section 4.2, Table 4.16:

Women's Autonomy Index). However there are a number of ways in which public policy can indirectly influence the gender balance of power in household decision-making and control over resources. Legislation that guarantees women's rights to own and inherit property, that makes divorce and child support easier to obtain, and that provides social assistance to female-headed households will increase a woman's options outside of her marriage, raising her bargaining power within the relationship (Glick, P 2002). The author feels that by enhancing woman's power to determine the allocation of household resources, these policies have the additional advantage of increasing the complementarities of women's work and children's well being.

Changing Gender norms

Finally, the policy discussion so far assumes the existing gender roles within the household, implying the child care responsibility to be in the exclusive domain of women or girl children. Given this assumption, the key to reducing conflicts between work and childcare is to reduce the burden of the latter on women. Researchers have felt the need to promote men's shared responsibility for parenthood. Advocates of such approaches stress the need to increase father's roles in caring for children, especially young children. One way of parental involvement in the care of young children could be through encouraging fathers' participation in child health and nutrition programmes (Glick, P 2002) and granting paternity leaves. However previous discussion, as a part of the present study, shows that such interventions are directed exclusively at mothers hinting an acceptance of existing gender roles.

¹¹ For a detailed study, see Bellow and King, 1993; World Bank 2001

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