

# **CONCERN AND CONFLICT**

A report on

## **WOMEN'S WORK AND CHILD HEALTH AND DEVELOPMENT**

Saraswathy Ganapathy and Shanti Ghosh

Sponsored by :

**THE FORD FOUNDATION**

**INSTITUTE OF SOCIAL STUDIES TRUST**

No. 57, 1st Floor, 16th Cross, Gayathri Devi Park Extension,  
Vyalikaval, Bangalore-560 003

**INDIA**

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Vysikaval,  
Bangalore-560003  
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## NAMES AND DESIGNATION OF MEMBERS OF THE PROJECT TEAM

Project Director - Dr. Shanti Ghosh

Director, ISST - Mrs. Devaki Jain

Consultant Anthropologist - Dr. Jayashree Ramakrishna

### Research staff:

#### Project Coordinators

1990-1993 Dr. Saraswathy Ganapathy  
1988-1989 Ms. Lakshmi Ramaswamy

#### Investigators

Ms. Madhumathi	1989-'92
Ms. Gowri Nipanal	1989-'91
Ms. Shobha Prakash	1990-'91
Ms. Mamatha C.K.	"
Ms. Rajini G.	"
Ms. Hemalatha C.	1989-'90
Ms. Celestine Crasto	"
Ms. Suneetha B.C.	"
Ms. Shylaja M.	"
Ms. Uma	1989
Ms. Shobhana Swamy	"
Ms. Gayathri	"
Ms. Anuradha Jayaram	"

#### Computer staff

Mrs. Grace Fernandez 1989-1993  
Mr. P.P. Shivkumar 1990-1993  
Mr. P.Satyajit 1991  
Ms. Anija John 1991  
Mr. Kumar 1991  
Ms. A.Asha 1989-1991

#### Research Associate

Mr. Upendranadh 1992

#### Research Assistants

Ms. Aruna Reddy	1991-'92
Mr. Balanathan	1991
Ms. Ansu John	"
Ms. V. Dhara	"

### Administrative staff:

#### Financial

Mr. G.R.N. Moorthy  
Mr. Aravind  
Mr. Samarpan

#### Clerical & Library

Mrs. Jolly Thankachan  
Mrs. K.N. Sudha

#### Service Staff

Mr. John Peter  
Mr. Krishna  
Mr. Somashekhar







List of consultants to network project on "Women's Work and Child Development"

Dr.Bina Agarwal, Institute of Economic Growth,  
University of Delhi.

Dr.Badri N.Saxena, Senior Deputy Director General, ICMR.

Dr.Carol Upadhyay

Dr.Deepa Jain, Director, Ministry of Human Resource  
Development.

Dr. (Mrs.) Gururaja, UNICEF

Dr.K.G.Krishnamurthy, Jt. Advisor, Planning Commission,  
New Delhi

Dr. Leela Visaria, Gujarat Institute of Area Planning,  
Ahmedabad.

Prof. Leela Dube, Nehru Memorial Museum & Library, New  
Delhi

Prof.T.N.Madan, Institute of Economic Growth, New Delhi

Dr.Meena Gupta, Director, Ministry of Labour

Dr.Mira Chatterji, Consultant, Delhi.

Dr.Moni Nag, Population Council

Prof. S.Mukerji, IIPS, Bombay

Prof. Pertti Pelto, Dept. of Anthropology, University of  
Connecticut.

Dr. Raheja

Mr. Raj Bhatia

Dr.S.Seshadri, Department of FN, MSU, Baroda

Dr.Shubh Kumar, IFPRI, Washington DC

Smt.C.P.Sujaya, Joint Secretary, National Commission for  
SC/ST, Ministry of Welfare

Mr.Uma Shanker, Ministry of Health & Family Welfare

Dr.Warren Robinson, USAID, Delhi





## EXECUTIVE SUMMARY

Virtually all poor women work. For them it is not a question of choice, but rather of survival of their families. This study was meant to evaluate the effect of the type of work women performed on the health and well-being of their children. The study was based in eight villages of the Kanakapura taluk of Karnataka State, and the population consisted of 291 women and their children, all of whom were from a basically agricultural community.

### Women's Work

The women were classified as Self Employed, Wage Labourers, Unpaid Family Workers and Housewives. There were very few women in the first and last of these groups. There was a great deal of shifting from one work category to another, mediated by factors such as the land-holding status of the household, the demands for family labour at different agricultural seasons, the availability of wage labour, the woman's health, and pregnancy and child-bearing. By and large, the women were essentially unpaid family workers, who perform wage labour when and as the opportunity arises, and who revert to exclusive housework only when ill or before and after the birth of a child. The duration of work and the income generated by it varies considerably, but overall wage labourers work for short periods of time and low wages. There are very few truly self-employed women, and again the incomes from self-employment are very varied. The unpaid family workers work for long hours. The caste and land-holding status of the household seems to have a marked effect on the type of work women perform, the stability of occupation as well as time spent at work and income. Almost all the households are in debt to a varied extent, and indeed it seems that borrowing money is the means by which they bridge the gap between expenses and income.

### Environment and Health

The general environment and the amenities available to the population were poor. The quality of care in the antenatal period and during delivery was inadequate, and the women's knowledge regarding contraception was very poor, as was its use. Breast-feeding was virtually universal, but was weaning was most often too early or too late and with inappropriate foods. The children were inadequately immunized for the most part. Child-care was found to be inadequate, with much of it being provided by older siblings, who are often quite young themselves. Many children dropped out of school to help with child-care or with the family's work.

Caloric intake was below recommended levels for most of the index children as well as for their mothers. Mild to moderate growth retardation was found in the majority of children. The patterns of morbidity reported for the children were similar to those commonly found in the literature, with upper respiratory infections and diarrhoea the most prevalent problems. Private sources of health



care were frequently used. Some evidence of gender differentiation was seen in health care seeking behaviour, with boys' illnesses receiving attention more frequently and also being treated more often at private health care facilities.

Women's morbidity differed from the commonly observed patterns in that we observed a very low prevalence of gynaecological diseases. This is almost certainly a falsely low figure, and may be due to the fact that most of the investigators were young unmarried women and the study subjects were reluctant to disclose these problems to them. Haemoglobin levels were checked for over 300 individuals, and anaemia was found to be very common. Local beliefs regarding practices during the perinatal period, the care and feeding of children and the treatment of certain diseases were ascertained, and lead us to believe that unless these local traditions are given cognizance, the amount of education and change in health related behaviour we can achieve will be minimal.

The various health and child-care programmes were evaluated and were generally found to be functioning poorly.

#### **Linkages between women's work and measures of child well-being**

Multivariate analyses were performed using Weight for Age, Caloric Intake and Reported Morbidity of the index child as the dependent variables. We are unable to determine any consistent effect of women's work categories or of time spent on work. Women's cash earnings show an impact on some of these child well-being variables. We do see a fairly consistent effect of various socio-economic, household and individual variables such as caste, mother's education, household size, the number of children under five, per capita food expenditure and age and sex of the child. Possibly, these effects are so strong as to mask any potential relationships between women's work and child well-being in this study sample.



# CHAPTER 1

## STUDY DESIGNS AND METHODS

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## 1.1 INTRODUCTION

This report is the story of the lives of 301 women and their children. They are for the most part, hard lives, where decisions are dictated by poverty and the lack of opportunities, where women marry and procreate young, where children, especially girls, either never attend school or drop out early to take on the burdens of work and child-care. Women work long hours and are underpaid for the work they do. The benefits of government programmes meant for these families reach them much reduced - if they reach at all. Over many months we have grown to know these women and children, while they have generously given us their time, a precious commodity, and shared the details of their lives. We embark on this report with gratitude to the people on whose lives it is based, and in the hope that it will bring positive change in those lives.

## 1.2 BACKGROUND

Women's work is a subject which attracts a good deal of interest and attention, and one which is fraught with many problems of definition and methodology. Why do women work? What do we mean by women's work? How do we measure women's work and what value can we assign to it? What is the effect on the household and especially on children of women's work? On her own health and well-being? Do poor women work because they have to or because they find it satisfying?

Public policy as well as social science research seem to treat male and female employment differently - whereas male unemployment is viewed as being problematic, female employment is viewed as being problematic, or at least worthy of attention. This differential approach towards male and female employment is based on a vision of the family that sees father as the primary earner and mother as the primary provider of child care who may be occasionally employed. This focus on women's reproductive roles has significant public policy implications. In some instances, this leads to outright discrimination against women in specific occupations which are seen as being incompatible with their family responsibilities (such as those involving frequent travel or rotating shifts), in others this results in promotion of employment schemes which emphasize employment in "traditional" skills such as sewing, knitting, or cooking and promote home-based or part-time work. These programs continue to operate despite the fact that frequently they are time-consuming, bring little or no income to the participants and cannot be easily upgraded to offer women higher earnings (Buvinic. 1983; Sen, 1991).

Although this assumed link between women's productive and



reproductive roles has tremendous policy implications, social science research has failed to examine this relationship with a holistic perspective. Some studies have treated maternal employment as a marker for children's exposure to possibly poor quality alternate care and have emphasized the negative consequences associated with it (Basu and Basu, 1991; Khan, Tamang and Patel, 1990), others have focused on improvement in household income (Gulati, 19xx; Mencher, 1988) and still others have emphasized changes in intra-household dynamics and increase in child specific expenditure as a result of it (Acharya and Bennett, 1983). Unfortunately, these studies focus on just one dimension of the relationship between maternal employment and child welfare and fail to consider other indirect relationships.

This confusion is not unique to Indian literature, however. An extensive review of American and European literature by the National Academy of Science in United States concluded, "Little is known about the consequences for children of parental employment or unemployment. Simple proportions regarding the positive or negative consequences of parents' work cannot be demonstrated and sophisticated ones have generally not been investigated" (Kamerman and Hayes, 1982, p.320).

Past research on the relationship between women's employment and child welfare suffers from the following deficiencies:

1. **Selectivity:** Women who participate in market activities, particularly those who participate in wage labour, tend to belong to lower socio-economic strata. Women from higher income families are more likely to work in the house or at the most on family farms. Thus, even when we find negative associations between maternal employment and markers of child welfare, it is difficult to be certain that maternal employment causes decline in child welfare.

2. **Lack of Consideration of the Nature of Women's Work:**

The term "maternal employment" is extremely fuzzy and it is unclear as to what it is meant to incorporate. As Bose (1979) succinctly points out, the data on women workers does not give a correct picture of 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). Although agricultural and dairy production for own of family consumption is considered gainful economic activity by most standards, census enumerators - indeed women themselves - frequently consider these activities simply as extensions of their domestic work. Thus, a number of studies have documented a "statistical purdah" with respect to counting



the number of economically active women (Jain, Singh and Chand, 1979; Jose, 1989).

### **3. Inadequate Understanding of the Process:**

Past research has usually tried to associate maternal employment directly with markers of child welfare. Although, these studies have not focused on the process through which they are related, a variety of assumptions are built into these theoretical models. For example, it is argued that maternal employment leads to children's increased exposure to alternate care. However, past research in such other Asian countries as the Philippines (Ho, 1979) and Malaysia (Da Vanzo and Lee, 1983) shows that women in developing countries engage in activities that allow them to care for their children while working. Thus, it is important to examine the extent to which maternal employment actually results in children's exposure to alternate care and also to examine whether this alternate care is actually harmful to children. Similarly, studies have suggested that increased participation in wage labour results in increased female control which results in better food and health care for children. However, relationship between increased income and power within the family is far from established (Standing, 1985; Safilios-Rothschild, 1990).

A focus on the process is particularly important if we want to sort out the positive and negative effects of maternal employment. We expect that maternal employment may have a positive effect on children through increased income, reduced fertility, and changes in intra-household power structure and resource allocation. In contrast, maternal employment may have a negative effect on children through reduction in length of breast feeding, exposure to poor quality alternate care, and increase in mother's work burden and resultant decline in her own health status. Since a focus on total effect ignores these potentially counterbalancing effects, we must look below the surface to examine whether all these hypothesized effects really exist and their magnitude.

### **4. Inadequate Consideration of Moderating Effects:**

Research on the relationship between maternal employment and child outcomes has rarely considered other factors such as child's gender, income of other family members, household structure and social norms regarding women's employment. It is likely that these other factors may help exacerbate or dampen the effect of maternal employment on children. For example, the consequences of maternal employment must depend on the alternative to this income. In families with adequate income from other sources, the benefit of maternal employment may be relatively small and the negative effect of maternal



absence may predominate, whereas the opposite may be true for families without other income. Similarly, presence of a grandmother in the household may reduce any potential negative effect of maternal absence.

### 1.3 AIM

The aim of the present study is to understand and ascertain the linkages between women's work roles and the health and nutritional status of their children and their survival, in order to provide a knowledge base for development programmes and policies which seek to benefit women and children.

The following hypotheses are tested by the study:

1. Women's participation in economic activities increases household income, thereby increasing resources devoted to children.
2. Increase in women's time devoted to economic activity reduces the quantity as well as quality of care children receive.
3. Income independent of family increased women's power and influence within the household, potentially resulting in higher priority given to child welfare in household allocation of resources.
4. Participation in economic activities, particularly work outside the home, enhances women's knowledge, experience, and confidence, resulting in improved quality of child care and other behaviours supporting child health such as use of services.
5. Benefits for children of women's work are determined more by socio-economic conditions (class, community-level variables related to economic opportunity) than by individual or household choice. For poor households, differences in work and determinants in decision-making will have little impact on child welfare without changes in the socio-economic status of the family.

### 1.4 STUDY DESIGN AND METHODS

This report is based on a study conducted at the Institute of Social Studies Trust (ISST, Bangalore). The data for this report are drawn from Kanakapura taluk, approximately 60 Km from Bangalore. Similar studies were also conducted at six sites in different parts of the country. Operations Research Group and M.S. University (both in Baroda), Council for Social Development (Delhi), Institute of Rural Health Studies and National Institute of Nutrition (both in Hyderabad). All



centres other than the National Institute of Nutrition studied a rural population, but M.S. University and Operations Research Group studied urban populations as well as rural ones.

The nature of women's work and attitudes toward women's participation in activities outside the household differ significantly across various parts of the country (Dyson and Moore, 1983; Banerjee and Jain, Forthcoming). These differences have been attributed to the difference between northern and southern kinship patterns, differences in cropping patterns and other socio-economic factors. The involvement of multiple centres in this study should be very useful in obtaining a cross-regional comparison. As one of the objectives of the present multi-centre study is to generate comparable data on women's work and child well-being and ultimately to undertake an aggregated data analysis, it was decided at the start of the project that all centres would adhere to an identical design, use identical schedules, and undertake a minimum number of repeat surveys and interviews at prescribed intervals. However, depending on their own interests, each centre has added additional questions and/or conducted more frequent interviews.

This study uses an unusual combination of data collection technique by using both quantitative methods as well as in-depth qualitative data on a sub sample of women. This combination allows us to capitalize on the strength of survey data by collecting a relatively large and heterogenous sample and also to qualitatively understand the complexity of the women's lives, environment and various factors which might influence their working role and have an impact on their families' well being. In keeping with this objective, quantitative data were collected from 301 women and from this sample, 15 women were chosen for in-depth case study.

## **1.5 INSTRUMENTS**

The data collected can be broadly classified as follows:

1. Ethnographic and community background data
2. Surveys (one time and repeat surveys).
3. Case Studies

### **1. Ethnographic and Community Background Data:**

The Ethnographic and community background data were collected over a period of one year by the senior project staff at both the household and community levels. The objectives of collecting information on community variables were to establish the background of the household being studied, and to assess the extent to which factors outside the household influence child health. This has direct bearing on Hypothesis



6. The ethnographic data on gender specific factors will also make possible a better understanding of intra-HH behaviour. Perceptions of such issues as women's roles in child care, the appropriate use of income generated by men and by women, the role a woman has in the making of household decisions - all these must surely affect the well-being of the child.

## 2. Survey Data

Information collected via survey is divided in two categories: one-time information and repeat information using a panel format.

I. The following information was collected at the beginning of the project and was not collected again:

1. The household census
2. Data regarding the socio-economic status of the household and other mother-specific information such as her education, age, and fertility history.

Prior to selecting the target households, a census of all eight chosen villages was undertaken. Based on the information from the village census, eligible households were identified and were interviewed at the start of the project. (Sample selection criteria are described in detail in Chapter 2). This first survey instrument contains the following schedules

- A - Social and demographic description of the household, background information regarding the mother.
- B - Pre- and Post-natal care.
- C - Breast feeding practices.
- D - Immunization.
- E - Child care practices.
- F - Family Planning practices.

II. The repeat schedules were administered three times except the morbidity questionnaires which were collected 6 times (every 2 months during the study period) during the project period between December 1989 and March 1991.<sup>1</sup>

- G - Time activity questionnaire for the index mother.
- H - Time activity questionnaire for other family members.
- I - Time spent by the index child under care of all relatives and non-relatives, excluding mother
- J - Morbidity pattern for the index child
- K - Anthropometric data

---

<sup>1</sup> Due to practical difficulties, we surveyed 4 villages thrice and the other 4 twice.



- L - Dietary schedule
- M-Q -Details of income and expenditure of the family
- R - Income & expenditure from sericulture.

This last was peculiar to this project only as other centres did not have sericulture in their areas.

Samples of all these instruments and descriptions of methods used for data collection are included in **Appendix II.1.**

3. A sub-sample of 15 families were chosen for in-depth case studies. These were selected with an attempt to represent the various communities, castes, religious and occupational groups. The investigators had received training from consulting anthropologists and compiled a list of topics to be explored in detail. Each field investigator chose 3 or 4 households which she then visited at regular intervals to elicit information of interest using open-ended conversations and discussions. The investigators were asked to record two types of information:

(1) Information regarding issues such as family history, attitude towards work, relationship between various children and family members, gender role attitudes and discrimination and health practices; and

(2) Investigators' observations on care given to children, the state of the house, and relationship between various family members. Instructions to the investigators and type of questions to be explored are included in **Appendix II.2.**



## 1.6 SELECTION OF VILLAGES

Kanakapura taluk was chosen as the location for the study since the ISST was familiar with the area, having conducted studies there previously. The 258 villages in Kanakapura Taluka were first classified by population size into small, medium and large villages, which had 200 - 400 households being categorised as medium-sized villages. Such medium-sized villages have some infra-structure such as schools, roads etc., but are not likely to have become as urbanized as larger villages. At the same time, they are unlikely to be as totally remote and neglected as many of the small villages. We therefore decided to select the study villages from these middle sized villages.

As a second step, background information such as labour pattern, population details and cropping pattern in these villages was collected using taluka level sources, as well as the 1981 census data. Information on the number of children below five in each village was obtained from the block office of the CDPO and those villages which had more than 100 such children were identified. Information on the cropping pattern was obtained from the Agricultural Assistant Director's office in Kanakapura.

The eight villages for the study were finally chosen on the basis of accessibility by road, a population composition that included an appropriate choice of households for the study and reasonable access to health and welfare services e.g. presence of a sub-center or ICDS center (Anganwadi) in the village or in the neighbouring village. The previously collected information for these villages was confirmed by personal visits. At these visits the investigators also ensured that there were about 75 households in each village in which there were 2 children below 5 years of age.

The villages included two subcentre villages - Kadahalli and Achalu, along with 3 additional villages in each subcentre.

<u>Achalu subcentre</u>	<u>Kadahalli subcentre</u>
Achalu	Kadahalli
Jakkegowdanadoddi	Halasur
Bommanahalli	Maraletthimmanadoddi
Thotahalli	Boohalli

## 1.7 SELECTION OF HOUSEHOLDS

A detailed census schedule was administered to families which had a child below 5 years (Mother-Child Unit or MCU Households), and a more abbreviated questionnaire (which elicits minimum information like name of the head of the household and the number and sex of the family members) was



collected from all other households in the 8 villages (about 1600 households in total) After the census was completed, a rough estimate of the total household income was made, taking into consideration all the existing occupations and the income from all sources. The households for the study were chosen after the results of the census were evaluated.

**Criteria for selection were:**

1. Income( <Rs.12000 per annum)
2. Age of the index child (less than 5 years)
3. Land holding (less than 5 acres).

467 households had an eligible mother/child pair, but it was decided to limit the study sample to 350. This was done by eliminating households with children at the higher end of the age range. The income cut off of Rs.12000 was waived for households of self employed women, as it was difficult to find an adequate number of such households reporting family incomes below Rs.12000.

When these 350 households were revisited to administer the A-F schedules, (background data etc.,) several had to be excluded for reasons such as unwillingness to participate (19), migration (16), income being too high or child being too old (6), IM having moved to natal home for antenatal period and delivery (5), death of IM (1). The reason for 2 dropouts was not recorded. 301 households remained in the study after these drop-outs, and comprise the study sample.

### **1.8 DATA COLLECTION**

After the census, the first survey done was to collect the information for the one-time Socio-Economic and Household (A-F) questionnaire. Following this, the repeat questionnaires were administered. The time period over which each questionnaire was collected in each round is given in Appendix 1.1.

Community level data: Interviews were held with several local officials such as the Tahsildar, CDPO, PHC doctor, Lady Health visitors and Auxiliary Nurse Midwives. All 6 anganwadis in the area were visited on at least one occasion, and some two or three times and observations made on their method of operation. Parents of children attending the anganwadi, as well as anganwadi workers and helpers were interviewed.

Haemoglobin estimations were done on about 400 women and children from 6 months to 57 years of age. Specimens were collected by one of the study personnel and a technician in the field, and the estimations were done by the



cyano-haemoglobin method at the Nutrition Research Centre of  
St. John's Medical College, Bangalore.

A - 2 : August 1989 - January 1990

Round 1

G/H/I : August 1989 - February 1990

J 1 : August 1989 - December 1989

J 2 : December 1989 - February 1990

J 3 : March/April 1990

K : March/April 1990

L : January/April 1990

M - R : September 1989 - March 1990

Round 2

G/H/I : May - July 1990

J 4 : May/June 1990

J 5 : July - September 1990

J 6 : August - October 1990

K : September/October 1990

L : May-July 1990

M - R : May - August 1990

Round 3

G/H/I : January/February 1991

K : March 1991

L : January/February 1991

M - R : January/February 1991

**APPENDIX 1.1: Dates of administration of questionnaires.**

Census: May - July 1989

A - F : August 1989 - January 1990

Round 1

G/H/I : August 1989 - February 1990

J 1 : August 1989 - December 1989

J 2 : December 1989 - February 1990

J 3 : March/April 1990

K : March/April 1990

L : January/April 1990

M - R : September 1989 - March 1990

Round 2

G/H/I : May - July 1990

J 4 : May/June 1990

J 5 : July - September 1990

J 6 : August - October 1990

K : September/October 1990

L : May-July 1990

M - R : May - August 1990

Round 3

G/H/I : January/February 1991

K : March 1991

L : January/February 1991

M - R : January/February 1991



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## CHAPTER 2 LOCALE AND PEOPLE OF THE STUDY

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28.1	29.2	Urban	IMR (1986)
3-4	2-3	Maternal mortality/1000 (1986)	
96	74		

\*Children and Women in Karnataka: A Situation Analysis 1990  
Institute for Social and Economic Change, Bangalore

A significant feature of the state is that since April 1987 Panchayati Raj has been in effect in Karnataka. Zilla Parishads and Mandal Panchayats, (which are elected local bodies at the level of the district and of groups of villages respectively), have the authority to plan and execute development strategies, theoretically empowering the people. Another outstanding finding in Karnataka is that, according to NMB data, the mean caloric intake recorded for the state is the highest in all the country (about 2700 cal).

Karnataka is divided into 30 districts, the Bangalore Rural district being situated south-west of Bangalore City, the capital of Karnataka (Fig. 2.3 Appendix 2.1). Bangalore Rural district is further divided into 8 taluks, one of which is Kanakapura taluk, where the study was conducted. This is a large taluk with an area of 1590 sq. km., or about 27 % of the district. The taluk headquarters, the town of Kanakapura, is located about 60 kms from Bangalore city.

Most of the land is flat, with rocky out-croppings but the western border of the taluk, which adjoins the state of Tamilnadu has low,



## 1.1 DESCRIPTION OF STUDY AREA

Karnataka is one of the four southern states of India. (Fig.2.1 Appendix 2.1). It can be considered an average state with respect to socio-economic indicators, although there is considerable diversity from area to area of the state.

Table 2.1 Socio-economic indicators Karnataka / India\*

	Karnataka	India
Mean per cap. income (1970-1971 prices)	Rs. 753	Rs. 777
% population urban (1981)	29	23
% population literate	Female	25
	Male	47
Life expectancy (1981-1986)	57	56
Sex ratio, (1991 census)	960	929
% population poor (1983-1984)	Rural	40.4
	Urban	28.1
Maternal mortality/1000 (1986)	2-3	3-4
IMR (1986)	74	96

\*Children and Women in Karnataka A Situation Analysis 1990  
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Karnataka is divided into 20 districts, the Bangalore Rural district being situated south-west of Bangalore City, the capital of Karnataka (Fig.2.2 Appendix 2.1). Bangalore Rural district is further divided into 8 taluks, one of which is Kanakapura taluk, where the study was conducted. This is a large taluk with an area of 1590 sq. km., or about 27 % of the district. The taluk headquarters, the town of Kanakapura, is located about 60 Kms from Bangalore city.

Most of the land is flat, with rocky out-croppings but the western border of the taluk, which abuts the state of Tamilnadu has low,



forested hills. One of the major rivers of the area is the Arkavathi, a tributary of the Cauvery. The area of the taluk is about 160,000 hectares. 44% is actively used agricultural land, 13% pasture, 28% forest, 9% barren land and the rest a combination of fallow land, cultivable waste or trees and groves. There are four main seasons, the months of December to February being generally cold and fair, March to May the hot weather season, June to September the southwest monsoon period, while in October and November the southwest monsoon recedes and the northwest monsoon sets in.

The total population of the district in 1991 was reported as 16,65,468, with the female to male ratio 950:1000, and 21.5% scheduled castes and tribes. Corresponding figures for the taluk (in 1981) are 272429, 926:1000 and 18.5%.

Almost half of all the landholdings in the taluk measure less than 1 hectare. Most of the small landholdings are unirrigated and depend on rainfall for the crops. The total irrigated area for the district and the taluk are 57,700 and 11,670 hectares respectively. Irrigation is mainly from tanks and surface wells.

The major crops grown in this taluk are ragi, jowar, rice, pulses, fodder crops, oilseeds (groundnut, coconut, sesamum, niger seed, castor) and to a certain extent fresh fruits and mulberry for sericulture which is widespread in the area. There is a mix of areas under subsistence cropping and commercial cash cropping. Ragi is the main subsistence crop in Kanakapura taluk, and groundnut the main cash crop. Ragi is usually sown around June and July and harvested in November and December, while groundnut is sown in October and harvested in January. In irrigated areas, rice is also sown in September and harvested in June.

The staple food of the people in the area is ragi, with rice being eaten to a lesser extent, usually by more prosperous households. Many of the communities such as the Muslims, Gowdas and scheduled castes and tribes are non-vegetarians in theory, but in practice the high cost of such foods restricts their intake.

The main activities in the area are agriculture related, with people working either on their own land or as wage labourers. A system of bonded labour known as 'jeetha' operates in the area, and is quite frequently encountered. Under this system an individual, to repay a debt, commits himself or one of his family members for a set period of time to the exclusive and unpaid service of the person to whom he is indebted.

Kanakapura taluk has altogether 4 primary health centres, situated at Kanakapura, Hosadurga, Maralavadi and Sathanur. Kanakapura town has modern medical health facilities, a government hospital and several private practitioners. In the villages traditional healers and dais also provide services. There are 400 anganwadis



of the Integrated Child Development Scheme in the district, and 272 in the taluk, as well as 365 primary schools in the taluk. Several welfare schemes are operative in the area, such as pensions for widows and the disabled, the 100 Wells programme, TRYSEM and several others.

Additional demographic & Economic data are given in Appendix 2.2.

## 1.2 DESCRIPTION OF THE VILLAGES:

The location of the villages in relation to Kanakapura town is shown in Fig.2.3 Appendix 2.1. As mentioned already, these are medium sized villages, except for Jakkegowdanadoddi and Maraalethimanadoddi, which have about 60 to 70 households each. The larger ones are like small townships, while Boohalli is noticeably more remote, and being near forested areas, often has problems with wild animals damaging crops.

The first impression one gets when entering these villages is that they are generally dry, dusty and unappealing, with few trees or kitchen gardens in the village itself, though the agricultural areas around are green and pleasant, especially during the growing season. People, animals and bicycles or bullock carts share the village roads, which are also used for drying produce like castor beans or pulses. A stranger walking down the road, particularly someone noticeably urban or 'different', attracts a great deal of generally good-natured attention and promptly draws a crowd of children (and sometimes adults). The larger roads, or the highway cutting through the villages have buses, small trucks and vans using them; vehicles on the road can have considerable difficulty in passing each other, requiring ingenious manoueuvering. Most of the homes one sees are of a traditional design, either mud and thatch in the poorer areas, or masonry and brick in the more well to do. Hardly any public buildings are to be seen except a small school, dairy cooperative or temple. The scheduled caste families in the villages tend, by and large, to live in distinctly separate areas, which are often the less desirable and accessible.

Photographs of the villages and housing are in Appendix 2.3.

The following table presents data regarding population and literacy of the villages in the study. (Sources: Registrar General of India; District Census Handbook, Bangalore, 1981



**Table 2.2 Demographic structure of sample villages: 1981 \***

Village	No. of HHs.	Population		% of literacy			#Sex ratio
		Total	M	F	M	F	
Achalu	369	1962	1004	958	25.6	12.0	954
Bommanahalli	144	802	412	390	29.3	12.3	946
Thotahalli	222	1238	648	590	33.3	13.7	910
Kadahalli	200	1070	548	522	38.5	20.6	952
Halsur	458	2390	1216	1174	37.0	14.6	965
Boohalli	229	1368	716	652	37.8	13.6	910

\* Two villages, viz., J.K.Doddi and M.T.Doddi are carved out of Achalu and Halsur respectively after 1981.

\$ % Literacy Bangalore Rural 1991 52:33  
Kanakapura taluk 1989-1990 33:15

# Females/1000 males

The villages vary somewhat in their characteristics and in the amenities available. Overall, since these villages are fairly close to the state capital and the taluk headquarters, they are reasonably well provided with the requisite services. All the villages are 3-5 kms from a medical facility and are electrified, and except for J.K. Doddi and M.T.Doddi all the villages have an ICDS anganwadi. However, none has a high school, so that after the seventh standard students have to go to either Sathnur or Kanakapura for further education. Some of the largest villages, like Achalu, Halsur and Bommanahalli, have one or two metalled roads. Most of the roads in the area, however are mud roads or just foot-paths. All the villages have a few small shops which provide some basic items, but for most provisions people have to go to the larger subcentres. Very few homes in the villages have access to television, though several have radios. Entertainment generally takes the form of the occasional travelling folk-theatre or musical group, or the annual religious festival in the neighbourhood. Sometimes these festivals include rituals like possession and fire-walking and are very widely attended by people from miles around. All the villages have one or more temples, of varied size and importance, and Achalu has a mosque.



Table 2.3

## Physical Amenities

Village	No. of Schools Prim. Mid.		Source of drinking water	Bus service	Roads **	Special features village
Achalu	3	2	Tap & Borewell (Tank for irrigatn)	Yes	PR	Muslim HHs. ANM Hdqrs. Subcentre
J.K.Doddi	1	0	Borewell/Tank (3 for drinking water)	Yes	PR	Voddaru, Medass Family.
Bomanahalli	1	0	Borewell	Yes	KR	
Thotahalli	1	1	Borewell/Tank	Yes	PR	Dairy & milk co-op.
Kadahalli	1	1	Borewell & Tank	Yes	PR	Subcentre, ANM Hdqrs.
Halsur	2	1	Borewell	Yes	PR	
M.T.Doddi	1	0	Borewell	Yes	KR	
Boohalli	1	1	Borewell	Yes	PR	Male Health Asst.

Notes:\*\* PR-Pukka Road (metalled) KR-Kutch Road (mud road)

## 1.3 DESCRIPTION OF THE HOUSEHOLDS

An overview of the socio-economic profile of the households in our study population is given below.

Table 2.4 Family structure/size

	No.	% of HHs.
Nuclear	180	59.8%
Joint	12	4.0%
Extended	109	36.2%
1-4 members	84	27.9%
5-8 members	198	65.8%
9- >13 members	19	6.4%
Mean number of children/Household		2.7
Mean number of children <6 years/HH		1.7



Our sample households are primarily nuclear but a substantial proportion (40%) also live in extended or joint families, where other family members may be able to provide childcare.

### 1.3.1 Caste:

Caste is still a very potent force in India, and its relationship to class, occupation and various socio-economic indices is of great relevance. The Scheduled Castes and Scheduled Tribes are defined by the Government of India and are commonly recognized as the most underprivileged and vulnerable sections of society. While laws exist to protect these groups, discrimination, often overt, still exists on many fronts. They generally live in separate areas, and people of other castes will not eat with them. They are generally discouraged from sharing the water sources of non-SCs.

There are fine distinctions made among castes, sometimes difficult to understand for an outsider. Sidamma says that being Agasas they are tolerated as being "cleaner and not untouchable" and hence allowed to live in what is essentially a Gowda area.

Scheduled caste and scheduled tribe (SC/ST) households comprised 40.5% of the total population, and are mainly SC. Only 5 families are classified as ST; all of them are from Jakkegowdanadoddi (JKD) village and are basket weavers or 'Koramas'. The percentage of SC & ST varies from a high of 65.4% in JKD to 25.6% in Achalu. The vast majority of the rest are classified as backward castes, and are mostly Vokkaligas (also known as Gowdas).

All but 3 families are Hindu and the majority are of the backward caste.

**Table 2.5 Religion and caste**

Hindu	298	99.0%
Muslim	3	1.0%
SC	116	38.7%
ST	5	1.6%
Backward Hindu	175	58.1%
Other Hindu	2	0.7%
Non-Hindus*	3	1.0%

\* These 3 are Muslim and live in Achalu, the only one of the 8 villages studied that has a Muslim population.



### 1.3.2 Sex:

There were 865 females and 818 males in the sample, giving a female/male ratio of 1060:1000. This is markedly at variance with 1991 census figures for India (929:1000) as well as with the 1991 data for Karnataka (960:1000), but it must be remembered that our sample was of young families. The female/male ratio in the sample varies by age groups. There is a marked disproportion in the 16-20 year age group, with very few males. The reason for this is not clear, but might be out - migration for work or because men in this age group were selected out of our sample, since they would be too young to be fathers and too old to be sons of women who have children under 5. It probably also shows the difference in age at marriage, with younger women marrying older men.

**Table 2.7 Sex of HH members By Age**

Age	Male	Female	Total
0 - 2 years	53.1%	46.9%	228
2 - 5 years	48.7%	51.3%	271
6 - 9 years	42.3%	57.7%	189
10-14 years	39.0%	61.0%	123
15-19 years	21.3%	78.8%	160
20-30 years	50.3%	49.7%	354
31-40 years	79.2%	20.8%	168
41-50 years	53.2%	46.8%	62
51-60 years	57.8%	42.2%	64
Above 60 years	57.8%	42.2%	64
Total	48.6%	51.4%	1683

### 1.3.3 Education:

As might be expected, the literacy levels in these households are even lower than in the general population of the villages. As seen in the table below, 72% of the members of the 301 households had received no schooling. The proportion of individuals who never attended school rises with age after 15 years, but is always markedly higher in women. Very few have attended middle school or reached levels of higher education. This again is especially true for females.



Table 2.8 Education by Age group as % population : &gt;5 years

Age	No schlng		Class 1-5		Middle		Sec/BG		TOTAL #	
	M	F	M	F	M	F	M	F	M	F
>5-10	35.9	55.7	63.0	41.9	1.1	2.4	-	-	92	124
11-15	25.7	55.9	11.4	25.4	51.4	17.0	11.4	1.7	35	59
16-20	52.9	84.1	17.7	7.9	2.9	7.1	26.5	0.8	34	126
21-30	69.7	88.1	14.6	8.5	6.2	2.8	9.6	0.6	178	176
31-40	72.9	97.1	14.3	2.9	9.0	-	4.1	-	133	35
41-50	87.9	93.1	9.1	6.9	3.0	-	-	-	33	29
>50	84.8	97.1	15.2	2.9	-	-	-	-	59	69
Total (M+F)	72.0		18.8		6.0		3.2		1182	

The reactions we received from the women who were interviewed for the case studies, when we discussed education were very varied. Some react negatively to the idea. 'If I send all my children to school who will work? Who will go grazing? Who will look after the young children and who will cook? I cannot do all the work myself. So I will educate only those who are interested in studies and put the others to work' said one of the women. Another asks, 'What is the guarantee that you get good jobs with higher education? There are 4-5 scheduled caste boys who have studied upto college, but have no jobs. In our own village there are engineers without jobs'. The need for family members to work in the fields is also given as a reason that schooling is stopped. Poor families cannot afford to pay wages and employ labourers, and instead have to use the children as unpaid family workers. Another woman seemed to feel that education was not going to help the girls - 'Can they avoid having to scrape the burnt vessels? Can they go out like you, carrying a bag to earn their living?' she asked.

Some of our respondents, in contrast, appear to feel that there are benefits to being educated. We often found they compared themselves with the investigators. 'Why shouldn't we be like you? At least our children should improve' one comments. One woman, who was embroiled in a problem with the local bureaucracy saw a man at the government office who was illiterate and had to seek help from the clerks to draft an application. She realised how difficult life was for such people and how they were at the mercy of officials and the system. She says she has resolved that her own children will never face such a situation. A rather unusual attitude we encountered was that of woman who would like to educate her older daughter 'as she is a little dull and could become slightly more clever going to school'. Her younger daughter is very clever so she doesn't plan to send her to school. Husband and



very clever so she doesn't plan to send her to school. Husband and wife are in agreement about the decision. She feels by educating the girls they may get employment in the nursery school, and the respect they get will increase. Their dowry will also increase. She adds, "But we women cannot do away with washing the earthen pots!" Increased respect for the family and lower dowry is mentioned by a few women. We have been told that if a girl is educated she can find a husband from the city, and that 'Anyone will come forward when a girl is educated.' Education seems to be related in the minds of some of the women with very pragmatic and somewhat limited benefits. 'Without any schooling my son should not find himself in a situation like mine, of having to use his thumb-print, so I am educating him upto the 7th standard. It is enough if he can read some bank and taluk office papers, and the bus boards' says one mother.

#### **1.3.4 Occupation:**

The primary occupation in our study villages is agriculture. Over 50% of adults in the sample engage in cultivating their own land, and another large group (30%) is employed as agricultural wage labour. Very few workers are employed in services or other occupations, but approximately 5% are craftsmen engaging in stone-cutting, basket-weaving etc. The table below gives the occupations by sex, as reported at the time of the initial interview. These may be inaccurate, since we have found, as we will show later, that the occupations recorded during the study period were somewhat different.

**Table 2.12 Occupations by sex ( >14 yrs of age)**

Occupation	Total	% of Males	% of Females
Cultivator	315	51.7%	55.8%
Agri.Labour	199	32.1%	36.0%
Service	6	1.6%	0.4%
Skilled worker	42	6.2%	3.4%
Business	40	3.1%	1.5%
Casual labour	12	2.8%	1.1%
UPFW	247	0.3%	1.5%
Others	11	2.2%	0.4%

#### **1.3.5 Land holding status of the family:**

In our sample 28.2% of households are landless, 57.1% have marginal landholdings (less than 1 hectare) and 14.6% are small farmers who own between 1 and 2 hectares. There is considerable



variation by village, landlessness being as high as 46.3% in Thotahalli, and only 4.2% in Kadahalli.

It is likely that landholding has an effect on income, both in cash and kind. Households which have agricultural produce usually keep some of it for use by the household. The mean household incomes per year for the three groups as reported to us are:

Landless - Rs. 6358.8, Marginal - Rs.6680.5, Small - Rs.8251.1.

Of the households which do own land, land holdings are as follows:

**Table 2.10 Size and irrigation of land-holdings**

Size of holding	Unirrigated only	Irrigated only	Both	Total
<1	135	10	5	150
Col. %	75%	76.9%	50.0%	74.3%
Row %	90%	6.7%	3.3%	
1-2	45	3	5	53
Col. %	25.0%	23.1%	50.0%	25.7%
Row %	84.9%	5.7%	9.4%	
Total	180	13	10	203

About three quarters of the holdings are less than 1 hectare in size, and about 90% of households own only unirrigated land. In addition, many families in this area lease land, usually because their own land is not irrigated and they need irrigated land for growing mulberry. They generally lease very small plots, only one family reporting the lease of more than 1 hectare.

More SC families are landless - 45.9% as compared to 20.1% of non-SC households.

**Table 2.11 Land holding by Caste**

Caste	Landless	Marginal	Small	Total
SC/ST	56 (45.9%)	59 (48.4%)	7 (5.7%)	122 (40.5%)
Others	36 (20.1%)	106 (59.2%)	37 (20.7%)	179 (59.5%)
Total	92 (30.6%)	165 (54.8%)	44 (14.6%)	301 (100%)

### **1.3.6 Income and assets**

As shown below, both gross and per capita income are very low. While the actual figures may be rather imprecise, given the known unreliability of data collection regarding income, it still demonstrates that even within these poor families there is a considerable range of incomes. Three families reported an annual



per capita income of more than Rs.10,000/- , while eighteen report less than Rs. 500/-.

**Table 2.6 Income group distribution (in Rs.per annum)**

<u>Total Household Income*</u>	<u>No.</u>	<u>% HHS</u>
=<5000	141	48.5
5001-10000	102	35.1
10001-15000	27	9.3
>15001	21	7.2
<u>HH per capita* income</u>		
=<500	18	6.2
501-1000	88	30.2
1001-1500	70	24.1
1501-2000	48	16.5
2001-5000	55	18.9
>5001	12	4.1
Total	291	100.0

\* (Child less than 15 years= 0.05 of adult)

Since this a largely agricultural community, the major assets are those connected with agricultural activities. None of the households in the study own any major agricultural equipment, but 71.1% own cattle, sheep or goats.

#### **1.4 ENVIRONMENT:**

Housing and sanitation have been shown to be related to a variety of health indicators. For instance, the lack of toilets may increase the incidence of parasitic infestations, and unprotected water sources are associated with increased episodes of diarrhoea. None of the households had access to purified water sources; however, the tap and borewell may be considered relatively cleaner sources of water than surface wells, ponds and tanks.

##### **1.4.1 Housing:**

Although the majority of our households owned their own houses, only 18% live in a pukka house. The type of housing also seems to vary by village - for instance there are no families with katcha houses in Kadahalli, but 46.2% live in katcha houses in Achalu.



About half reported having 2 room houses, 21.3% of household lived in a single room dwelling, and 24.2% claim 3 or 4 room houses. Often these are not really separate rooms, rather the main dwelling space is divided by a waist high wall into 2 or more spaces. (Appendix 2.3)

The table below gives the details of the housing and other facilities available

**Table 2.13 Distribution of housing and facilities**

Facility	No.	%
<u>Housing a) Ownership</u>		
Own home	277	92.0
Rented	7	2.3
Free with someone	17	5.7
<u>b) Construction</u>		
* Pukka (Brick wall/RCC or tiled roof/cement or mosaic floor)	55	18.3
Katcha (Mud or thatch wall mud floor/leaf or thatch roof)	63	20.9
Semi pukka (combination of above)	183	60.8
<u>Drinking water</u> Tap	56	16.1
Hand pump (borewell)	242	69.5
Well/Pond/Tank	50	14.4
<u>Distance of water source from house</u>		
Within house	1	0.3
Neighbourhood	165	54.8
Within village	119	39.5
Outside village	16	5.3
<u>Toilet facility</u> None	231	79.4
Within home (open or soakpit)	41	14.1
Joint/Public	19	6.5

Most of the houses are small and sparsely equipped. Sidamma's family live in a hut with a thatched roof. At the entrance to the hut, there is a slightly raised platform on each side (2x4 feet on one side and 4x5 feet on the other). She stores the fodder brought for her animals on these platforms. During the day she also uses these areas to rest with her children. There is a bathing area on the right as you enter the hut. The single room is separated by a



waist-high wall into a living area and a kitchen. In the hut there is a cot and a nicely carved cradle hung from the rafters. The cradle was made before the children were born. In another corner, timber is piled for future house building. There are also some small grain - filled sacks there.

Once your eyes adjust to the dark in Doddahennu's hut, you see a sunken grinding stone before you. There is a clothes line string up on which is hung the family's change of clothes. Some mats for resting on are kept in the hut. In the small space for the kitchen, there are a few aluminium vessels and plates and steel tumblers. Although there is a mud stove, no cooking is done in this hut because the family keeps silkworms in the hut, which get diseases when there is excessive heat and smoke.

Even though all villages are electrified, the percentage of study households with electricity is very varied, from a low of 7.7% in J.K.Doddi to 58.3% in Kadahalli. Overall only 27.9% of study households have electricity. More than half use kerosene lamps and about 14% earthen or petromax lamps.

Joint/Public	19	6.5
Within home (open or soakpit)	41	14.1
None	231	79.4
Toilet facility	16	5.3
Outside village	119	39.5
Within village	155	54.8
Neighbourhood	1	0.3
Distance of water source from house	50	16.4
Well/Pond/Tank	242	69.5
Hand pump (borewell)	55	16.1
Drinking water	183	60.8
Semi pukka (combination of above)	63	20.9
Floor/leaf or thatch roof	55	18.3
Katcha (Mud or thatch wall mud floor/leaf or thatch roof)		
Cement or mosaic floor		
* Pukka (Brick wall/RCC or tiled roof)		

Most of the houses are small and sparsely equipped. Siddamma's family live in a hut with a thatched roof. At the entrance to the hut, there is a slightly raised platform on each side (3x4 feet on one side and 4x2 feet on the other). She stores the fodder brought for her animals on these platforms. During the day she also uses these areas to rest with her children. There is a bathing area on the right as you enter the hut. The single room is separated by a



SC/ST households seem to have the poorest housing and amenities.

Table 2.14 Housing and amenities by caste

Housing amenities	SC/ST N=122	Others N=179
Own house	88.5%	94.4%
Katcha house	32.8%	12.9%
1 room	28.7%	16.2%
Separate kitchen	68.0%	78.8%
Cattle inside home not separated	29.2%	22.5%
No toilet	82.8%	77.1%
Electricity	11.5%	39.1%
Use mosquito net	10.7%	20.1%

Jayamma's is such a house. It is situated in the Holey area of the village - which extends for about 2 lanes. The house shares a common wall with her in-laws' home and is approached from the main road through the space between two other houses. The only open space is in front of her house, where the cow is tethered during the day. The house is made of thatch/mud brick and is about 8x12 feet in size. It is divided into a larger front portion and a smaller area for cooking. The front portion is crowded with silk worm trays, and is where the cow is tied at night, and also where they sleep. There are no windows and no electricity. She has grown a snake gourd vine along the front of the house, which is all she has in the way of a kitchen garden. She has no bathing area in her house, and has to bathe at the mother in laws. The house has no toilet, and they use the fields as their toilet.

52	9.6%	44.2%	46.2%	Boothall
101	5.3%	39.2%	54.8%	Total

Caste appears to make a difference in determining the primary source of drinking water. Only 5% of SC/ST had access to taps against 23.4% of non-SC/ST. Additionally, of the 16 women who report the primary water source as being outside the village, 11 are SC. In Halsaur village the SC households used to collect water from a pond outside the village, but after this dried up in the pre-monsoon period, they had great difficulty obtaining water. 'Sometimes we don't eat because we have no water to cook with', one of our SC respondents told us. Scheduled caste labourers can collect water from "non-SC wells" for use by their non-SC employers, but not for their own use.



### 1.4.2 Drinking Water

The enormous importance of reliable sources of drinking water is well recognised, both in relation to health and to the amount of time and effort involved in the collection of water by poor rural women.

Taps and handpumps seem to be the main sources of drinking water in our sample villages, (about 90 %) though wells and ponds/tanks are also used as sources of water. In 4 villages all the drinking water needs are met by taps and bore-wells with hand pumps.

We do not have information on the exact distance travelled to get drinking water, but only one HH had a water source within the house. 54.8% of HH reported having water source within the neighbourhood and 39.5% of HH reported it being within the village. In four villages some of the index mothers have to go outside the village to fetch drinking water.

TABLE 2.15 Distance of Source of Drinking Water By Village

Village	Neighbourhood	Within village	Outside village	Total
Achalu	84.6%	15.4%	-	39
J.K.Doddi	69.2%	30.8%	-	26
Bommanahalli	13.5%	70.3%	16.2%	37
Thotahalli	68.3%	26.8%	4.9%	41
Kadahalli	95.8%	4.2%	-	24
Halsur	33.3%	62.1%	4.5%	66
M.T.Doddi	81.3%	18.8%	-	16
Boohalli	46.2%	44.2%	9.6%	52
Total	54.8%	39.5%	5.3%	301

Caste appears to make a difference in determining the primary source of drinking water. Only 9% of SC/ST had access to taps against 22.4% of non-SC/ST. Additionally, of the 16 women who report the primary water source as being outside the village, 11 are SC. In Halasur village the SC households used to collect water from a pond outside the village, but after this dried up in the pre-monsoon period, they had great difficulty obtaining water. 'Sometimes we don't eat because we have no water to cook with' one of our SC respondents told us. Scheduled caste labourers can collect water from "non-SC wells" for use by their non-SC employers, but not for their own use.



**TABLE 2.16**  
**Source of Drinking Water & distance from source by Caste**

Source	% using	
	SC/ST N=122	Non-SC N=179
Tap	9.0	22.4
Handpump	82.0	65.4
Well	1.6	7.8
Pond/Tank	7.4	1.7
Distance		
Neighbourhood	54.1	55.3
Within village	36.9	41.3
Outside village	9.0	2.8

### 1.5 PROFILE OF THE WOMEN AND CHILDREN

The woman described here is representative of the women of the study population. A Vokkaliga by caste, she is 22 years old, has had no schooling and her natal village is in the same district as the one in which she now lives. She was married at 14, had her first child when she was 16 and has 2 living children after 3 pregnancies. Her children were all delivered at home - the first 2 at her natal home by her mother, the next 2 at her own home with the help of a neighbour. She lives in a nuclear household with her husband who owns 0.6 hectares of land.

They live in a one room home, which they own. It has brick walls, a thatched roof and mud floor: the kitchen is divided into 2 spaces by a waist high wall. She cooks indoors and the inside of their house is dark and often smoky. They use kerosene lanterns for light and wood for cooking. They have no toilet and use the open fields or waste land to defecate. She collects water from a hand-pumped borewell in the immediate neighbourhood of her house, and in the dry weather this often takes 2 or 3 hours. They keep cattle and poultry, which are tended by her and their children. She works on their land when necessary, does WL when it is available. This is usually agriculture related WL, for which she is paid Rs.6-10/day.

They have also tried sericulture at home, leasing in a hectare of irrigated land to raise mulberry, but they have not had much luck with raising silkworms. Her recreation consists of an occasional visit to her natal home, or to a local 'jatra' (religious festival) once or twice a year.



Since our sample households must have a child under the age of five, they tend to be relatively young households. Mean age of mothers in this sample is 22.8 years, ranging from 14 years to 43 years, while the mean age of their husbands is 33.2 years.

Only 39 of the index mothers in the sample had some schooling. More of these women belong to families which are non-SC and have small land-holdings.

Table 2.9 Caste and landholding by schooling of women				
	% SC	No land	Marginal	Small
School N=39	31.6	28.9	52.6	18.4
No school N=262	41.5	30.4	55.7	13.8

22.3% of Index Mothers belonged to the same village, the rest having moved there from somewhere else, usually another village in the same district. More Wage Labourers & SC/ST women seem to be originally from the same village. This could be significant in that it has been suggested that the proximity of a woman to her natal home may have a positive influence on her well-being and behaviour.

There were 134 female children in the sample (44.5%) and 167 male children (55.5%).

The ages of the index children (IC) varied from 2 to 60 months with a mean of 23.3 months.

The women's work categories (described in Chapter 3) seem to be related to the age of the index child. Housewives and UPFW (those not in 'outside' work) have younger children. The reason for this may well be that the women with young children choose this type of activity, while the others feel free to return to WL and SE since their children are older.

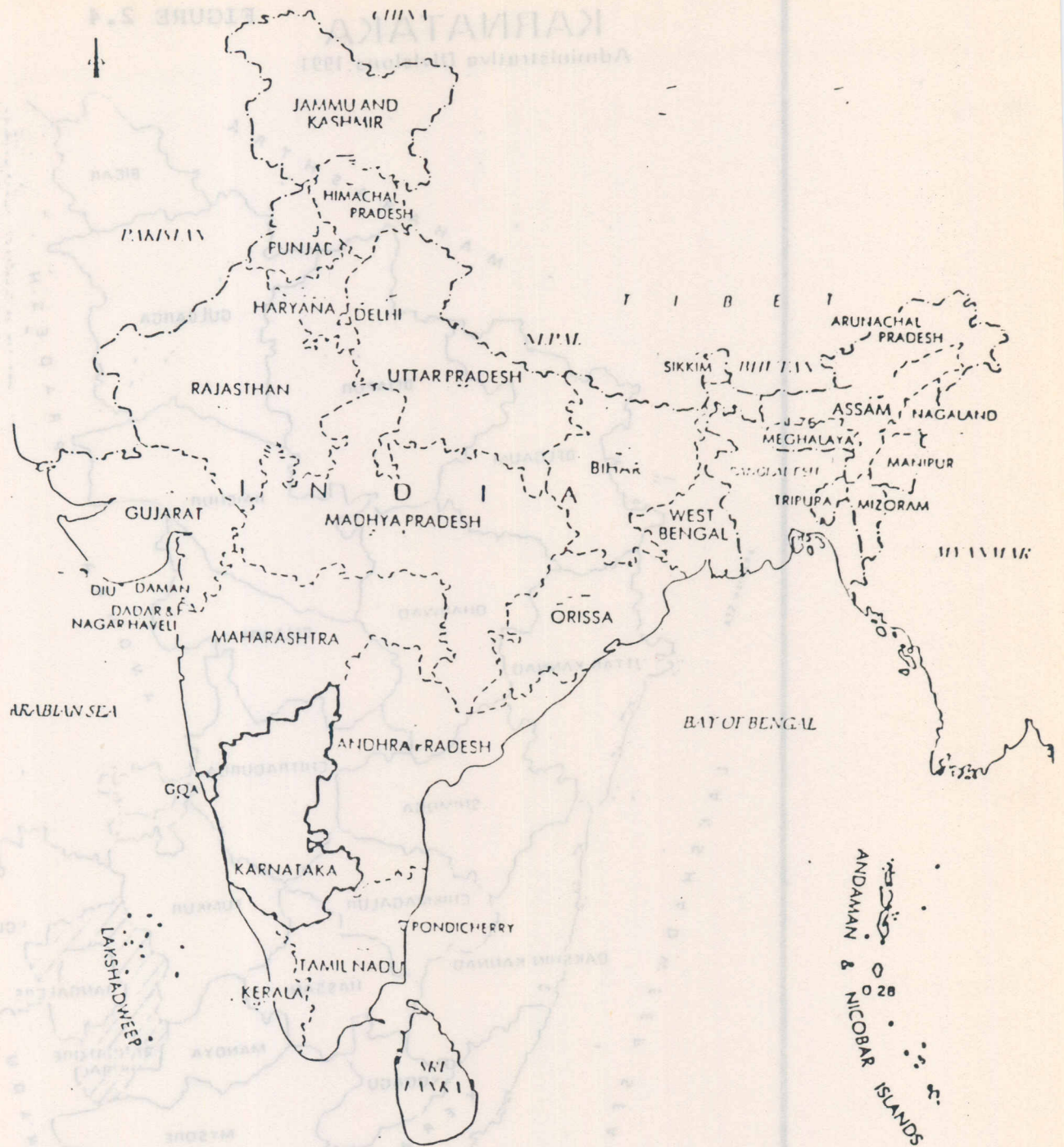
Table 2.17 Mean age and # of children by Work Category of mother

Work category of Index Mother	Mean Age of Index Child	Mean No. of Children
Self Employed	28.6 month	3.5
Wage Labour	25 months	2.8
UPFW	21.7 months	2.3
House wife	11.3 months	1.9

Some of the children were in the ICDS anganwadi programme, albeit attending irregularly, and none were in school as yet.



FIGURE 2.3





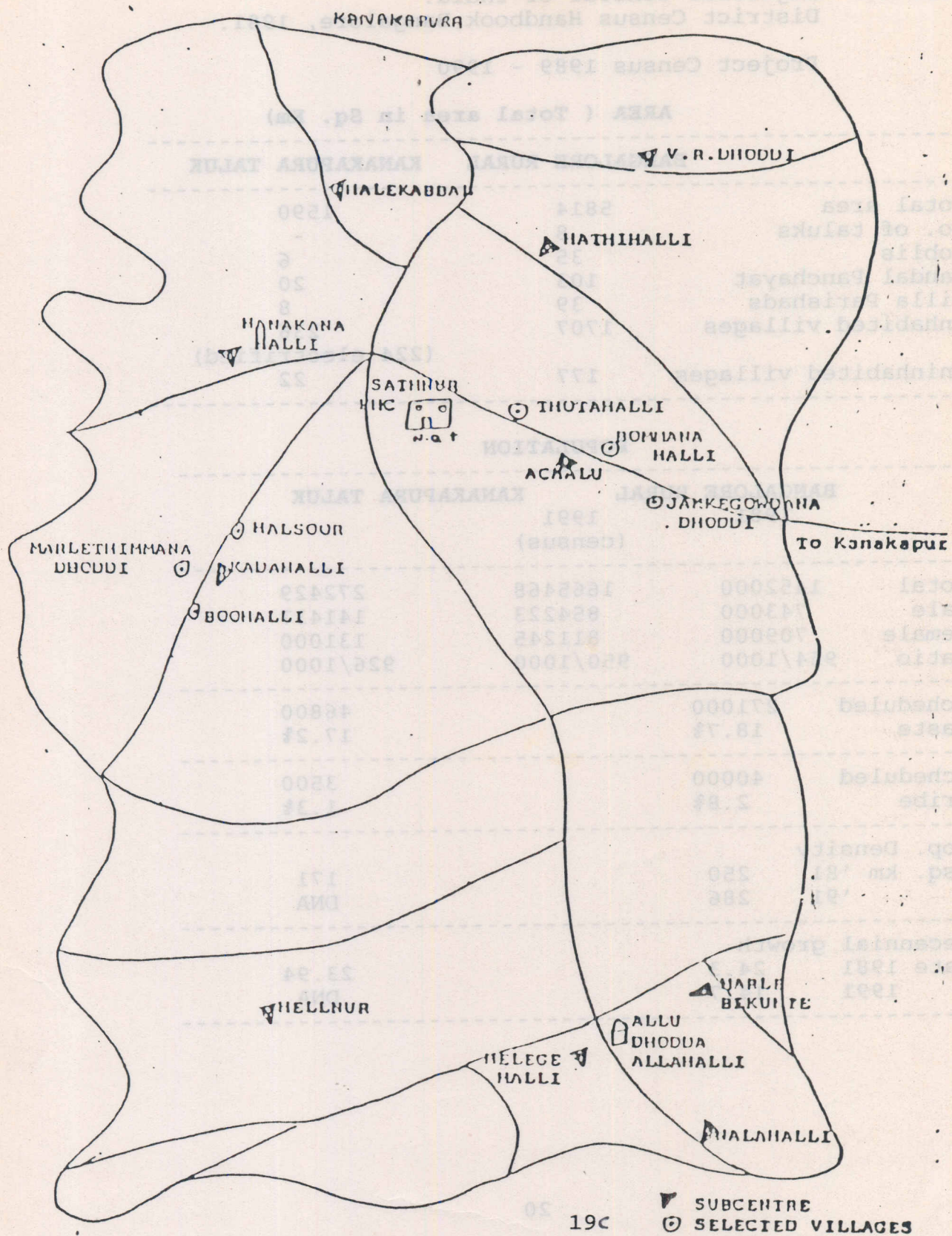
# KARNATAKA

Administrative Divisions, 1991

FIGURE 2.4









## APPENDIX 2.2 DEMOGRAPHIC AND ECONOMIC DATA

Sources: Registrar General of India.  
District Census Handbook, Bangalore, 1981.

Project Census 1989 - 1990

### AREA ( Total area in Sq. Km)

	BANGALORE RURAL	KANAKAPURA TALUK
Total area	5814	1590
No. of taluks	8	-
Hoblis	35	6
Mandal Panchayat	103	20
Zilla Parishads	39	8
Inhabited villages	1707	236 (224 electrified)
Uninhabited villages	177	22

### POPULATION

	BANGALORE RURAL 1981	1991 (census)	KANAKAPURA TALUK
Total	1452000	1665468	272429
Male	743000	854223	141437
Female	709000	811245	131000
Ratio	954/1000	950/1000	926/1000
Scheduled caste	271000 18.7%		46800 17.2%
Scheduled tribe	40000 2.8%		3500 1.3%
Pop. Density /sq. km '81	250		171
'91	286		DNA
Decennial growth rate 1981	24.3		23.94
1991	14.7		DNA



The agewise breakup of people in the Bangalore district (prior to bifurcation into Bangalore and Bangalore rural districts) according to the Director of Census Operations, Govt. of India, Bangalore was as follows in 1981.

#### BANGALORE DISTRICT

Age Group	Number	% of Total
0 - 4	5,88,595	11.9%
5 - 9	6,58,584	13.3%
10-14	5,90,210	11.9%
15-19	5,01,771	10.1%
20-24	4,91,891	9.9%
25-29	4,45,095	9.0%
30-39	6,12,934	12.4%
40-49	4,44,282	9.0%
50-59	2,72,227	6.0%
60	3,04,823	6.2%
Age not stated	7,198	0.2%
Total	49,47,610	

#### LAND UTILISATION

##### BANGALORE RURAL

##### KANAKPURA TALUK

	Hectare	% of total	Hectare	% of total
Geographic Area	586000		159426	
Forest	81000 /	13.8	45262 /	28.4
Non Agricultural use	44000 /	7.5	6219 /	3.9
Barren	38000 /	6.5	14422 /	9.0
Cultivable waste	6000 /	1.0	504 /	0.3
Pastures	48000 /	8.2	20634 /	12.9
Trees & groves	14000 /	2.4	138 /	0.9
Fallow	39000 /	6.7	943 /	0.1
Sown	316000 /	53.9	70575 /	44.3



# AGRICULTURE AND ANIMAL HUSBANDRY

Distribution of land holdings by size class  
No. of holdings and Total Area

	BANGALORE RURAL	KANAKPURA TALUK
	No.of holdings/Tot.area	No.of holdings/Tot.area
< 1 Hect.		
Marginal	122423 / 61619	18158 / 9438
1 - 2 Hect.		
Small	62716 / 90777	9259 / 13619
2 - 4 Hect.		
(Semi-medium)	45231 / 124975	6592 / 18092
4 - 10 Hect.		
(Medium)	-	3086 / 17754
> 10 Hect.		
(Large)	-	549 / 8629
Total	-	37644 / 67532

1. Source: Statistical Abstracts '83 - '84 - figures for Bangalore District 1980 - 1981, not Bangalore Rural

2. Source: Bangalore rural district statistics at a glance 1989-1990.



	BANGALORE RURAL	KANAKPURA TALUK
<u>Net area irrigated</u>		
<u>'88-'89 (In hectares)</u>		
Total	57,700	11,667
From canals	1,700	895
" tanks	23,100	2,560
" wells	22,900	6,680
" Borewells	8,700	982
" Other sources	1,300	550
<u>Area Under Important</u>		
<u>Crops (in hectares)</u>		
Paddy	18,200	3,710
Ragi	1,51,500*	34,073*
Other cereals	5,600	498
Tur	7,200	2,355
Other pulses	68,400	12,037
Groundnut	18,700	8,450
Sugarcane	1,700	455
<u>Production of Important</u>		
<u>Crops (in tonnes)</u>		
Rice	40,900	
Ragi	1,97,600	
Other cereals	12,200	
Tur	3,100	
Other pulses	10,300	
Groundnut	29,000	
Mulberry	--	
Sugarcane	1,43,000	
<u>Livestock (1983 data)</u>		
Cattle	5,61,000	1,25,500
Buffaloes	1,20,000	10,700
Sheep	2,88,000	50,000
Goats	2,29,000	68,100
Poultry	12,82,000	2,03,000
<u>RAINFALL</u>		
Raingauge stations	41	9
Normal rainfall	817	768
(1901-'70) (in mm)		
Actual rainfall		
(1989 -'90) (in mm)	712	755
Rainy days	46	45

\* About 50% of total sown land



# HEALTH

	BANGALORE RURAL	KANAKAPURA TALUK
Hospitals	5	1
PHC'S	45	6
PH units	32	3
Dispensaries	7	11
Family Welfare Centres	16	1

## Immunization Achievement

	A	B	
	BANGALORE RURAL	B	KANAKAPURA TALUK
	Achieved/Target		
D.P.T	28,000/	25,744/ 36,700	5,975
Polio	28,000	25,721/ 36,700	5,967
B.C.G	37,000	30,133/ 36,700	7,465
Measles	23,000	21,145/ 36,700	Data Not Available
T.T	34,000	28,957/ 47,400	6,233
FP operations	11,300	11,271/ 13,720	2,539

A - From data of Directorate of Economics & Statistics

B - Bangalore Rural Zilla Parishad Data

## Live Birth Rate/1000

Rural	30.2	-
Urban	26.0	-

## Death Rate/1000

Rural	10.6	-
Urban	6.0	-

## Infant Mortality Rate

Rural	80.4	-
Urban	41.4	-



# EDUCATION

	BANGALORE RURAL	KANAKAPURA TALUK
Literacy Rate %	32%	24.1%
Male 89-90 census	43%	32.8%
1991 census	52.1%	
Female 89-90 census	21%	14.7%
1991 census	32.9%	
Anganwadis	400	272
Nurseries	217	9
No. of students	13300	492
Primary Schools	2520	365
No. of students	274000	68840
No. of SCs	41362	D.N.A
No. of STs	11176	D.N.A
High Schools	165	19
No. of students	70000	D.N.A
No. of SCs	8978	D.N.A
No. of STs	1787	D.N.A
Pre-University	41	2
No. of students	16000	D.N.A
Colleges	11	2
No. of students	3500	1544
<u>ADULT EDUCATION</u>		
A.E. Centre	300	178
Enrolment	9000	7320
Akshara Sena Centres*	359	D.N.A
Enrolment	22000	D.N.A

\*



# BANGALORE RURAL

# KANAKPURA TALUK

## OCCUPATION

Workers	580000	109900
Non workers	872000	162500

In Kanakapura taluk agricultural labourers constitute 26% marginal farmers 17%, small farmers 7%, and large farmers 4% of the total population (1981 census)

## TRANSPORT

National Highway	114 Kms	-
State Highway	409 "	125 Kms
Major District Roads	667	216
Other District Roads	78	-
Village & Municipal Roads	1268	343

## COMMUNICATIONS

Post Offices	349	56
Telegraph offices	80	11
Tel. Exchanges	82	10
Telephones	10200	488

## VETERINARY INSTITUTIONS

Dispensaries	56	11
Mobile dispensaries	8	1
Artificial insemination Centres	57	2

## BANKS

Commercial banks	75	10
Grameena banks	24	6
Total Deposits	100 crores	D.N.A
Total loans	95 crores	D.N.A



	BANGALORE RURAL	KANAKPURA TALUK
<u>BENEFITS</u>		
House sites allotted	580	198
Houses for Rural poor	787	49
Mahila Mandals	368	62
Yuvak Mandals	337	88
Maternity allowance beneficiaries	2100	822
Old age pensioners	42000	13770
Disabled "	11000	2829
Widow "	25000	5319
Govt. "	3100	D.N.A
IRDP	5673	1073
Anthyodaya	260	150
100 Wells programme	88	59
TRYSEM	346	45
New borewells	228	92
Bhagya Mandira	200	D.N.A
Saplings planted	32	D.N.A
Gobar gas plants set up	289	20
Toddy shops	434	D.N.A
Arrack shops	426	D.N.A
Liquor shops	99	D.N.A



## BENEFITS

198	580	House sites allotted
49	787	Houses for Rural poor
62	368	Mahila Mandals
88	337	Yuva Mandals
822	2100	Maternity allowance beneficiaries
13770	42000	Old age pensioners
2829	11000	Disabled "
2319	22000	Widow "
D.N.A	3100	Govt. "
1073	2673	IRDP
180	260	Anchiodaya
59	88	100 Wells programme
45	346	TRYSEM
92	228	New borewells
D.N.A	200	Bhagya Mandals
D.N.A	32	Saplings planted
20	289	Gobar gas plants set up
D.N.A	434	Toddy shops
D.N.A	426	Attack shops
D.N.A	99	Liquor shops



KANAKAPURA LANDSCAPE









VILLAGE INTERIORS

881



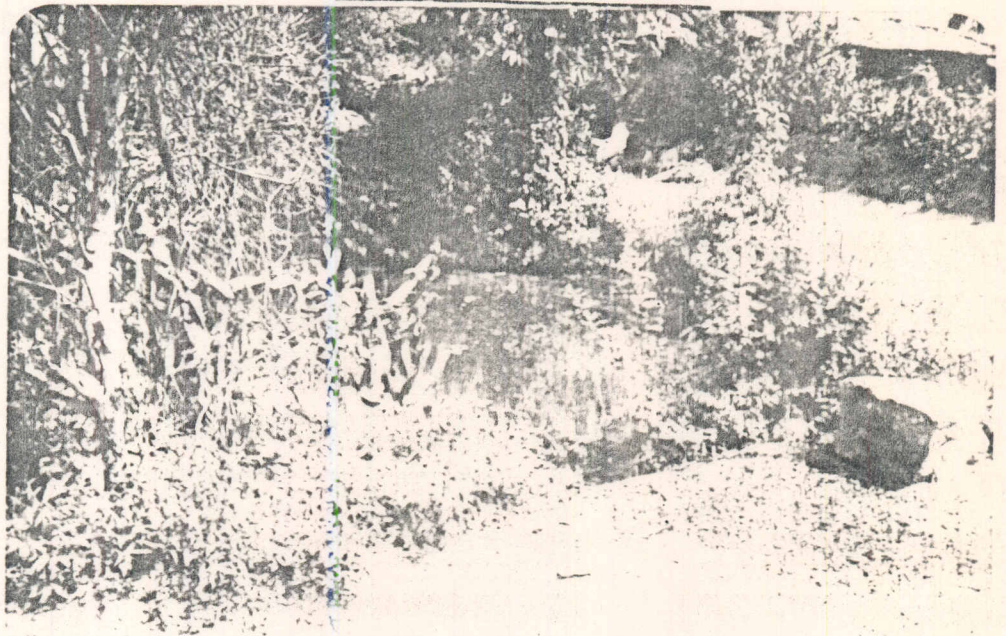








DRYING VILLAGE POND









# HOUSING



Mudbrick  
home



Semi-  
pucca  
home

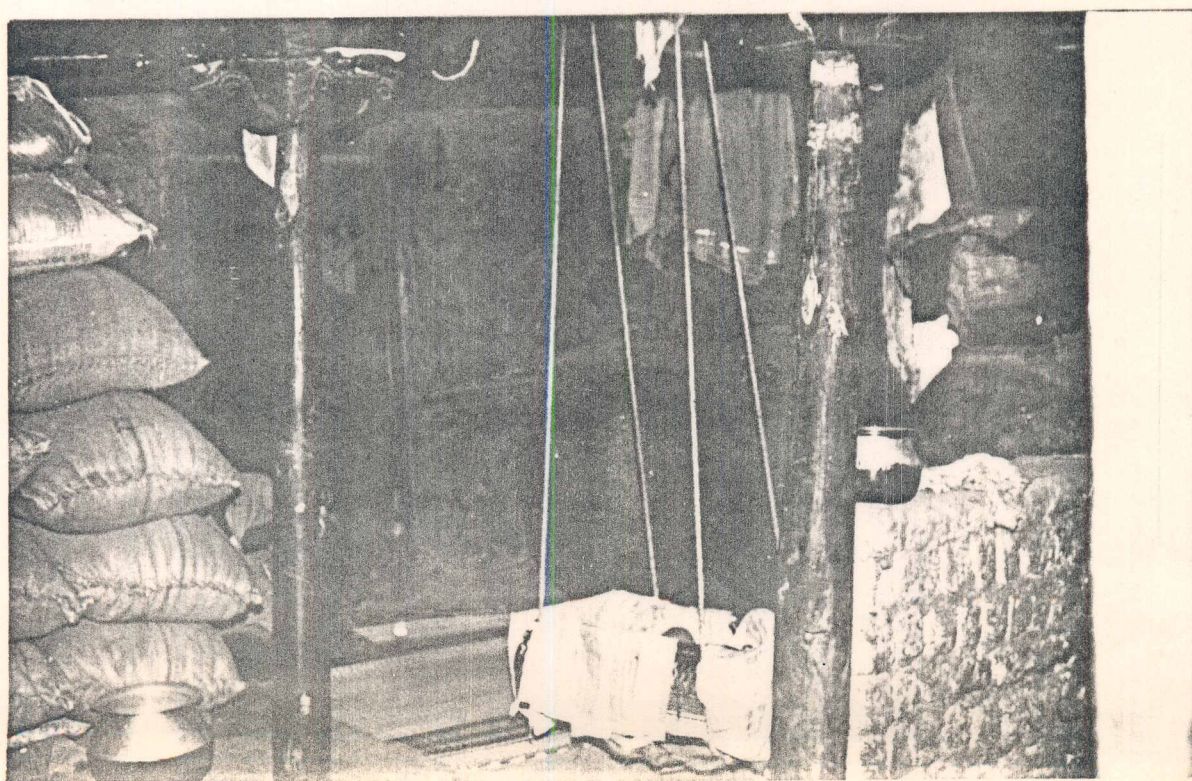
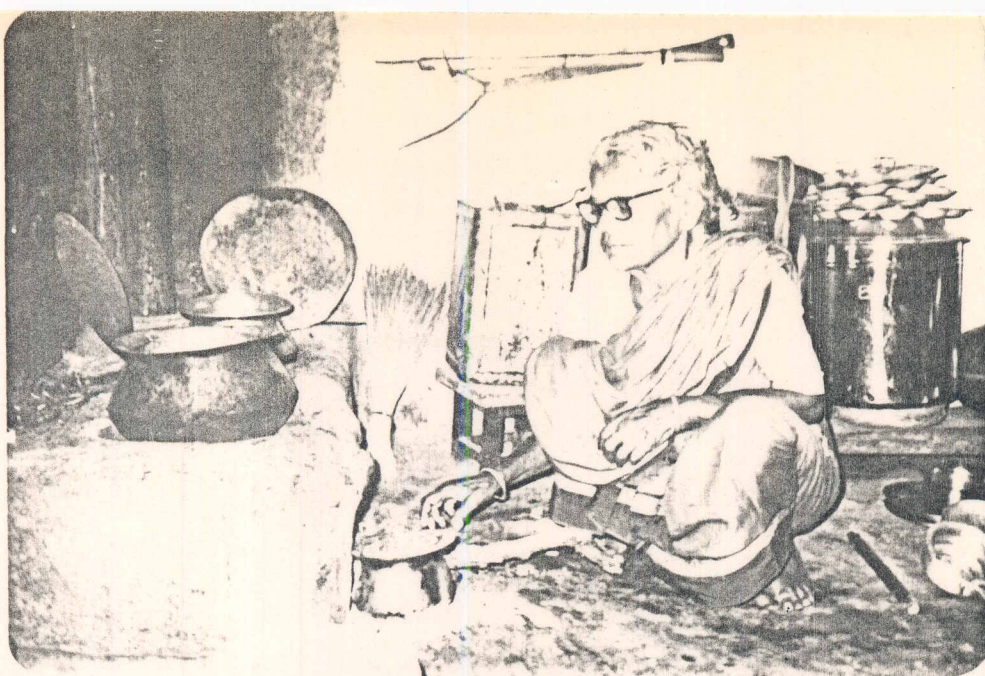


Better  
dwelling







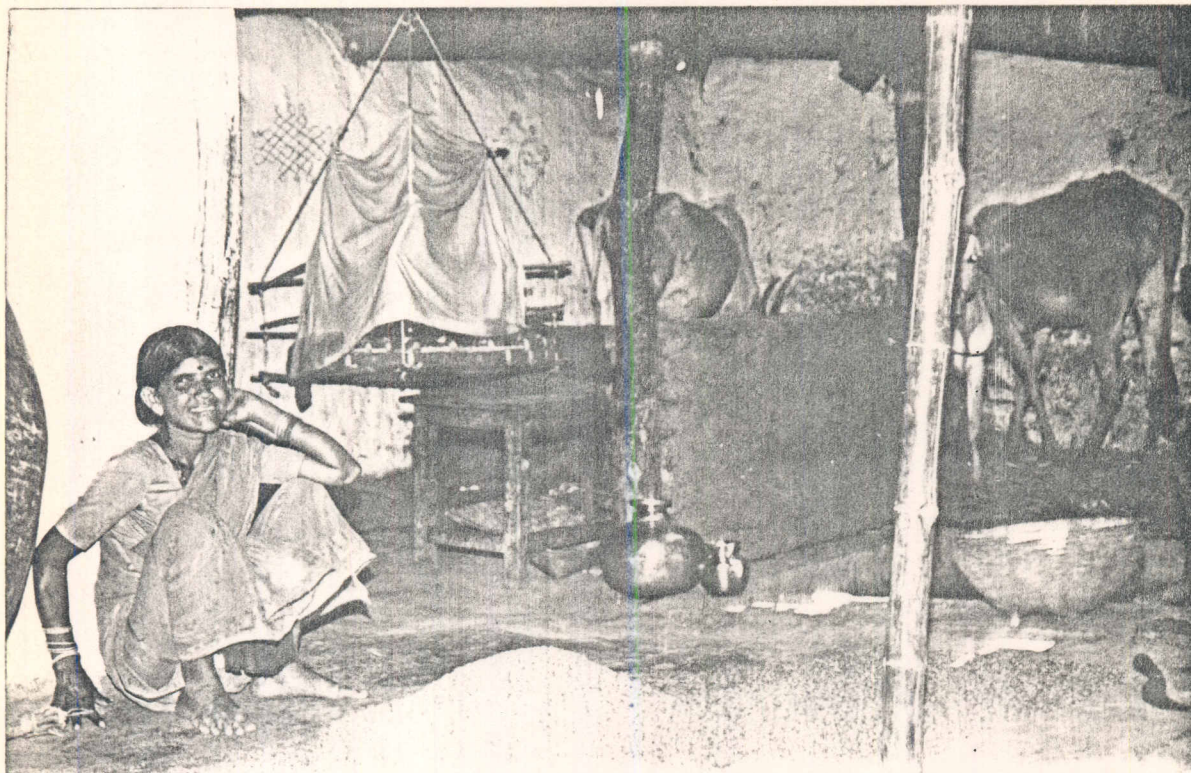








HOUSE (INTERIORS)



Cattle,  
sericul-  
ture in  
home



Wall dividing  
kitchen and  
living spaces



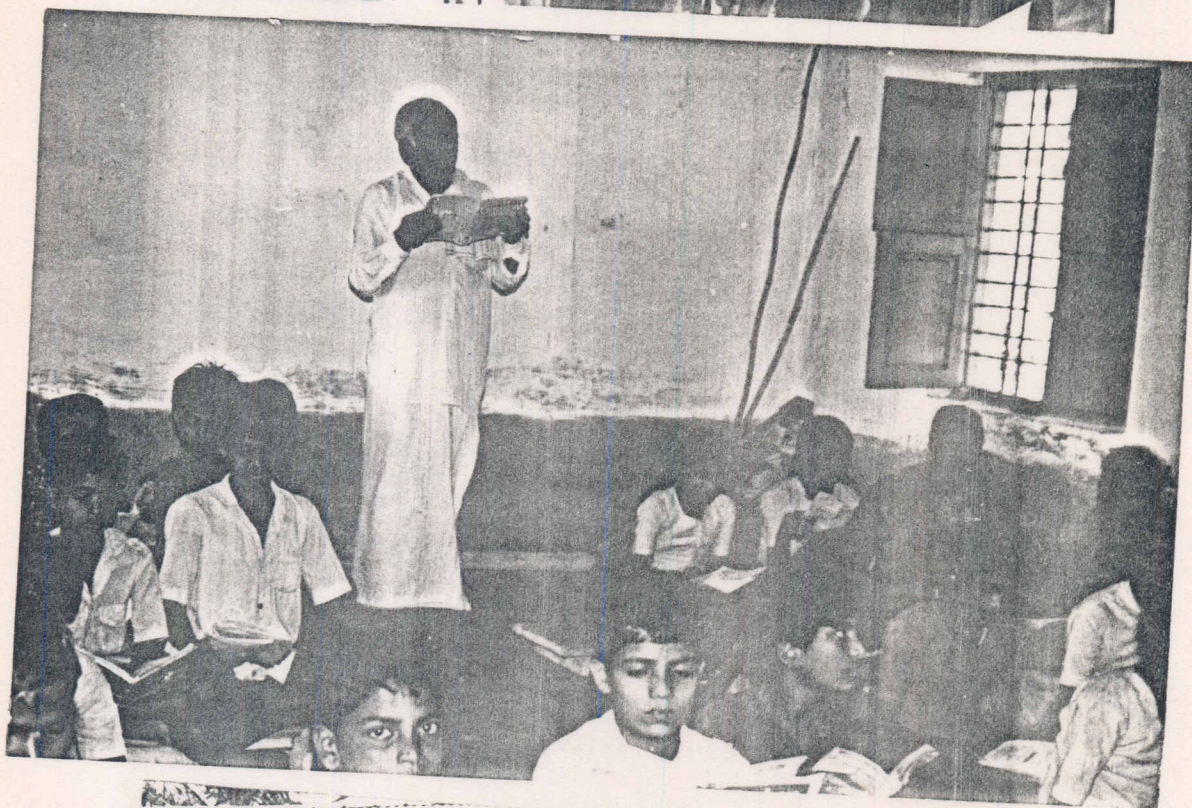






SCHOOLS

School  
Children



Classroom



Playground







WATER SOURCES  
GIRLS COLLECTING WATER



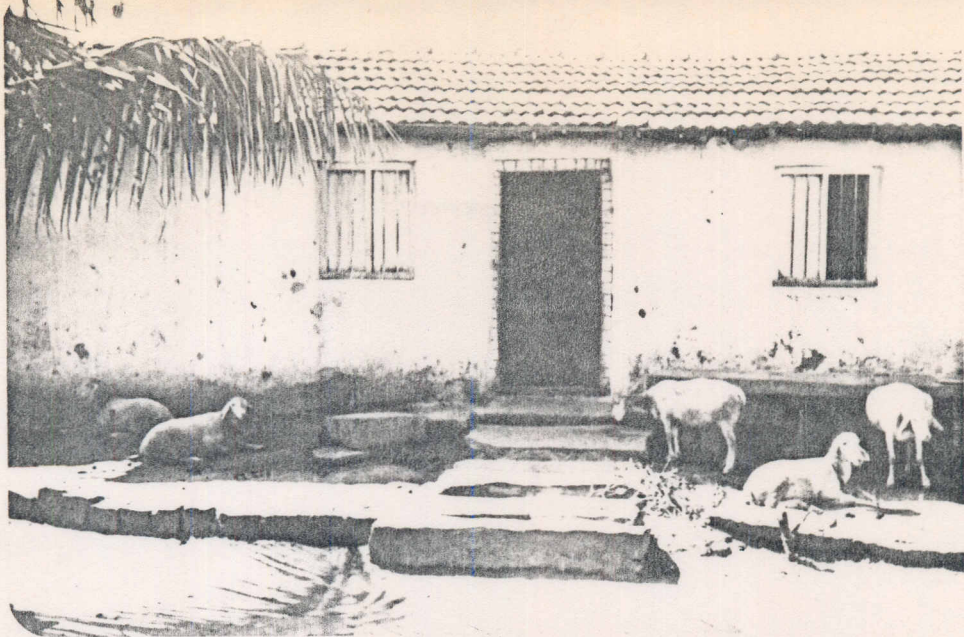
CATTLE BEING WASHED AND CHILDREN SWIMMING  
IN TANK

















LIVESTOCK



KITCHEN GARDEN









# CHAPTER 3 WOMEN'S WORK

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### 3.0 INTRODUCTION

Although the importance of women's economic contribution to the family is acknowledged by a variety of social scientists, in reality many studies fail to incorporate this notion in their models of the family. This is clearly visible in the two lines of research on maternal employment that have addressed the issue:

(1) Research on negative consequences of maternal employment due to exposure to poor quality alternate care; and (2) Research on increase in women's autonomy associated with participation in the paid economy and its positive consequences for children.

Recently some investigators have tried to distinguish between different types of employment for women. They argue that women's access to income independent of their families increases their power within the family and their control over their income (for a review see Mason, 1984), and that women have different priorities about how income should be spent than men (Mencher, 1988). Hence, when women have greater control over resources, they are more likely to spend it on children and less likely to discriminate between children than when they have access to their husband's income but do not have control over it (Acharya and Bennett, 1983). Thus, that nature of women's work determines children's access to resources above and beyond that positive consequences of increased income.

The latter approach postulates that the nature of women's work determines children's access to resources above and beyond the positive consequences of increased income. Following this approach, we distinguished between four categories of women's employment : (1) Self employment (2) Wage labour (3) Unpaid work in family enterprises and (4) Home making. This framework assumed that these four are distinct categories and that women's control over resources is greatest among the first two and lowest in the last two.

#### 3.1 DESCRIPTION OF ACTIVITIES

At the time of the census interview, women were asked to describe their occupation over the past 24 months. If more than one occupation was reported, the occupations were classified as primary or secondary depending on the approximate time spent on each. 72 mentioned homemaking as their primary occupation - for 51 it was their sole activity, but 21 had another secondary activity.



Table 3.1 Occupations of IM (Self reported, at Census interview)

Occupation	Primary		Secondary	
	No.	%	No.	%
Cultivator	100	33.2	22	7.3
Agricultural labour	75	24.9	24	8.0
House wife	72	23.9	63	20.9
Sericulture	27	9.0	61	20.3
Craftsman/Handicrafts	10	3.3	0	-
Unpaid Family Worker	4	1.4	7	2.4
Hotel/Dhaba	4	1.3	1	0.3
Business	3	1.0	0	-
Sericulture labourer	2	0.7	6	2.0
Casual labour	2	0.7	4	1.3
Anganwadi helper	1	0.3	0	-
Dhobi/Laundry	1	0.3	0	-
Tailor	0	-	1	0.3
Agarbathi packing	0	-	1	0.3
No Secondary activity	NA	-	111*	36.9
Total	301		301	

\* Incorrect coding due to misunderstanding by investigators and respondents - actually Housewife. Of these 111 women, 51 had mentioned housework as their primary and only activity, while 60 actually had a primary activity other than housework and housework was the secondary activity.



The description of sericulture as a common 'secondary' occupation reflects its prevalence in the area as a government sponsored income-generating scheme for women, but masks the extent of time women spend on this activity.

Further details of these activities are given below, grouped under three main categories.

**Table 3.2 Types of work done by women in various work categories**

Self Employed	Wage Labor	Unpaid Family Wkr
Basket making	Agriculture	Agriculture
Pottery	Sericulture	Livestock
Liquor shop	Anganwadi	Sericulture
'Hotel'	helper	Helper in family
Milk selling	Construction	enterprise**
Petty shop	Quarry Work	
Dhobi		
Flour mill		

\*\* Dhobi, shop, hotel, thatch making, pottery, agarbathi making, betel leaf selling, beedi filling, tailor







It seems clear that the women are engaged in predominantly agriculture, sericulture or the raising of livestock, whether for themselves and their families or as wage labourers. A few are occupied in small businesses.

#### **Description of specific activities:**

Certain tasks in agriculture are traditionally viewed as "women's work". For instance, in the area where this study was conducted women do weeding and transplanting, but never ploughing, and rarely watering. These divisions of agricultural tasks hold true whether the women are working on their own family land or as wage labourers on land belonging to someone else. When the men are ploughing, the women work alongside, doing satte ayurvudu (clearing small stones and dry plants). They usually work for 6-8 hours a day. Transplanting is usually done by women. This is done most commonly where rice is grown, on irrigated land, and involves 8 or more hours of work a day, during all of which the women are standing ankle deep in water, bent over to do the transplanting.

Harvesting of ragi, groundnut and other crops are done by both men and women. Women doing sericulture labour for others are involved in weeding the mulberry fields, and also in the picking of the leaves.

Many of the families in the study are involved in small business enterprises. When they run a petty shop or 'hotel' (actually a small tea and snack shop) both husband and wife attend to customers and collect the money, but the man is usually the one who purchases goods from the market. If the business involves selling cooked food or drink, the woman is the one who does the cooking.

Handicrafts are either pottery or basket-making. Most of the time, the men either purchase the bamboo or collect it from the forest. The women weave the baskets at home. In the case of pottery, the clay is collected from local ponds or rivers by men or women. The preparation of the clay is done by both, and the pot thrown on a manually operated wheel by either. The firing is done by men. Men and women both sell the baskets or pots.

The performance of Dhobi work (washing clothes) is a strictly caste related activity and is done by the Agasa community. Soiled clothes are collected, especially from households where a woman has given birth or has been menstruating, when the clothes are considered tainted and the washing is a purification. The clothes are washed by men or women, ironed and returned. Payment for this is often in kind and on an annual or long term contractual basis.

A few women do non-agricultural wage labour, which can be brick making, quarrying, or road construction. Their role is generally to carry headloads of mud, stone or brick.



Sericulture is an activity that was introduced into this area over the past several years, with the intention of its being a means of income generation primarily for women. Disinfecting the rearing house and equipment, brushing, picking and cutting of leaves, feeding worms, cleaning and changing of trays, mounting of worms, care of chandrikes and harvesting of cocoons are generally done by women, often assisted by children and sometimes by men. The obtaining of the layings and marketing of the cocoons are done almost exclusively by men. Only one of the many women who did sericulture reported marketing the cocoons herself. More details regarding sericulture are given in Chapter 4, Appendix 4.1.

### **3.2 WORK CLASSIFICATIONS**

#### **3.2.1 Definitions of Women's Employment Categories**

At the start of the study, women were classified into 4 work categories:

1. Self employed women
2. Wage labourers
3. Unpaid family workers
4. Residuals (generally housewife)

These 4 categories were used as the anchor of this study by all six network centers and a common definition was adopted by all six studies. The following section defines the categories and also describes the process by which these categories were assigned and the characteristics of women in the different categories.

##### **i. Self Employed (SE)**

A self employed woman is defined as a woman who is working on a specific enterprise, marketing the produce, and who also receives the payment either in cash or in kind (but may not necessarily keep the money herself). She would have some control over income, work time, the purchase of materials and the sale price.

Certain professions such as beedi making, tailoring, dhobi etc., were initially considered to fall under 'self employment'.

##### **ii) Unpaid Family Worker (UFW)**

A woman was listed as UFW if she:

- a. works on a family enterprise the produce of which is consumed.
- b. works on family enterprise but neither markets the produce nor receives the money herself.
- c. works on family enterprise, markets the produce but does not receive the money.

Examples of UPFW are agricultural labour on family farm, or sericulture at home.



### iii) Wage Labour (WL)

A woman was considered a wage labourer when she worked in or out of the house for others and earned in cash or kind. This work could be either in agricultural or non-agricultural activities.

### iv) Residual

All women who do not fall into the above three work categories (SE, UPFW, WL) are categorized as residual and are mainly housewives.

## 3.2.2 Work Categorisation of Study Population

The 301 women were assigned to one of the 4 categories based on information regarding their work which was collected several times as described below.

i) The initial classification of the women was based on their own report of their occupation as recorded during the census interview, at which time they were asked what work they had done during the past year.

ii) Subsequently, their work history for the past 24 months was recorded at the time of the A-F schedule interview, and an 'Initial' work category assigned, based on the most recent activity. In the event that a woman was found to be doing more than one type of activity, it was decided that the work categories for the A, G & K interviews were to be assigned according to a predetermined hierarchical structure, where Self Employed was considered the highest category, followed by Wage Labour, Unpaid Family Work and Housewife. Thus, if a woman reported being both an UPFW and SE during the same period, she would be categorized as SE, regardless of the time spent on each activity.

The interviews for the A section were conducted during the peak agricultural season in 275 of the 301 households which were enrolled in the study. Thus the work status reported may have been affected by the activities performed in the peak agricultural season. (Peak season June/July to Dec/Jan in this area)

iii) Further work categories were assigned:

- a) At each Women's Work (G) interview, based on the details collected during the interview, and using hierarchy in case multiple activities were reported.
- b) At the time of the anthropometry visit, from the woman's own report of her work status at the time.

iv) Finally, for the purpose of analysis, it was felt necessary to assign women to an annual work category. This was done by hierarchy, as described above, for Initial Work Category, (3.2.2.



ii) taking into account the work done in each round. Thus if she had been SE in Round 1, WL in another and HW in the 3rd, she would be classified as SE, as that was highest in the hierarchy.

The procedure followed to assign this annualised category is described in Appendix 3.1: Criteria for assignment to different work groups in Annualized work category.

Recategorization of work groups:

During the course of the study, it became obvious that there were certain problems with adhering to the categorization as it was initially conceived. We therefore recategorized the women using additional criteria which we discuss below.

**SE:** Drawing a clear demarcation between SE and UPFW is at times quite difficult. Even the ILO does not have a clear definition for the two, and/ hence the two categories are often merged. We felt that if a woman had no control over her earnings she should be considered UPFW rather than SE. We therefore collected information on control and utilisation of income from the individual women and also from the reports of our field investigators and from qualitative data. Reclassification of the SE group has been done according to this information, and details are given in Appendix 3.2 Self-employment/UPFW Reclassification

**WL:** Similar problems arose with adhering to the network definition for Wage Labour and Unpaid Family Work. Those who worked for a wage (both Agricultural and non-agricultural) or salary were grouped in this category. When a woman has done both UPFW and WL in the same round, she would be categorized as WL regardless of the relative amounts of time for which she did each. We have used an additional method of work categorization by actual time spent in the specific activities, whereby she is categorized as WL only if she has spent more than 40% of the combined WL/UPFW time in WL.

**UPFW:** A large number of women fall into this category according to the original definition but sometimes the actual time spent was as little as 5-10 minutes/day. We therefore calculated the actual time spent on activities classified as unpaid family work. In some households, we found women doing UPFW for relatively small periods of time (less than 15 minutes in a typical day or less than 30 hrs. per season). The number of such women in Rd. I, II and III was 16, 27 and 12 respectively. Most of them reported work such as feeding poultry for 10 or 15 minutes per day, or cleaning the cattle shed. We have also observed that many women who tend cattle or poultry in addition to performing HH activities often do not differentiate between these activities. As discussed later, classifying these women as UPFW probably results in over-reporting of work shifts. For instance a woman who keeps poultry and spends a few minutes feeding them in one round, but does not have any in another round, would be recorded as having shifted from the UPFW to the HW categories.



### 3.3 SHIFTS IN WOMEN'S WORK CATEGORIES

The basic question of the study was whether the type of work a woman does affects her child's well being, and if so, how? Implicit in the very question is the assumption that women continue to do the same type of work for considerable lengths of time and can thus be classified in different categories with some reliability. This appears to be a commonly held belief. However, what emerged as the study progressed was the fact that many of the women in the ISST study population did not perform one single, stable activity throughout the study period, but instead changed occupations repeatedly, thus making the original study question difficult to address. (We have demonstrated this in more detail in the working paper 'Multiple Shifts in Women's Work Status and Type of occupation' Ganapathy and Ghosh 1992)

We also realized that most women perform multiple activities, which means that they fall under more than one work category at any one particular time. Even excluding the universal performance of household activities, between a quarter and a third report multiple occupations in each round, with one or two women even performing activities that place them in all 3 economically productive categories in the same round. The process of assigning them to a single work category masks this multiplicity of activities.

Work category by round When we do assign women to one work category, either by hierarchy or according to time as described for Wage Labour above, we find that the proportion of women in the various work groups changes from round to round, showing that they are not stable in a single work category throughout long periods of time. We also see that the numbers categorized as WL and UPFW by the two methods varies in all rounds. The proportion of women classified as WL is much higher when classification is by hierarchy - this obviously means that many women are doing both WL & UPFW, and are being classified as WL though they actually do WL for <40% of their combined work time. This does not strike us as an accurate reflection of fact.

Table 3.3 Percentage of women in each category by Round \*

Work category	Round 1 N=283		RoundII N=289		Rd. III N=125	
	T	H	T	H	T	H
SE	3.4	3.4	2.4	2.4	3.7	3.7
WL	14.4	35.4	11.3	27.5	10.2	26.3
UPFW	72.2	51.2	76.3	60.1	75.2	59.1
HW	7.2	7.2	9.3	9.3	9.5	9.5

\* T=categorized by time

H=categorized by hierarchy



### 3.3.1 Work categories - initial & annual compared

Marked differences were found between the numbers of women in the 4 work groups when we compared the figures for the Initial and the Annualized work categories

**Table 3.4 Work categories by Initial and Annual categorization**

	SE	WL	UPFW	HW
Initial (301)	5	66	158	73
Annual (291)	13	137	137	4

Many more women were WL and SE than had reported themselves as such. The marked disparity in the number of women reporting themselves as HW (73) as opposed to those categorized as HW based on observation (8) raises the question of the reliability of self-reporting as far as work status goes. Our observation has been that the women generally feel it is far preferable not to have to work, the need to work being perceived as being associated with lower social and economic status. It is possible that a 'prestige bias' is operating here, with the women reporting themselves as housewives, because that is the culturally desirable status in the area.

### 3.3.2 Individual women's work shifts

When the work histories of the individual women are followed, the above observations seem to be substantiated. Figure 3.1 shows flow charts which track the individual women from the 4 work groups. Work category as reported for the Women's work (G) schedule was used to assign women to the different groups. When the G interview had not been carried out in a particular round, the work status was coded from the woman's own report during anthropometry (K) or Income-Expenditure (M-Q) interview of the same round. No work category had been assigned in 1 round for two women. We have not begun with the Initial work category because of its unreliability, but have chosen to start with the work groups at the time of the first women's work interview. (GI)

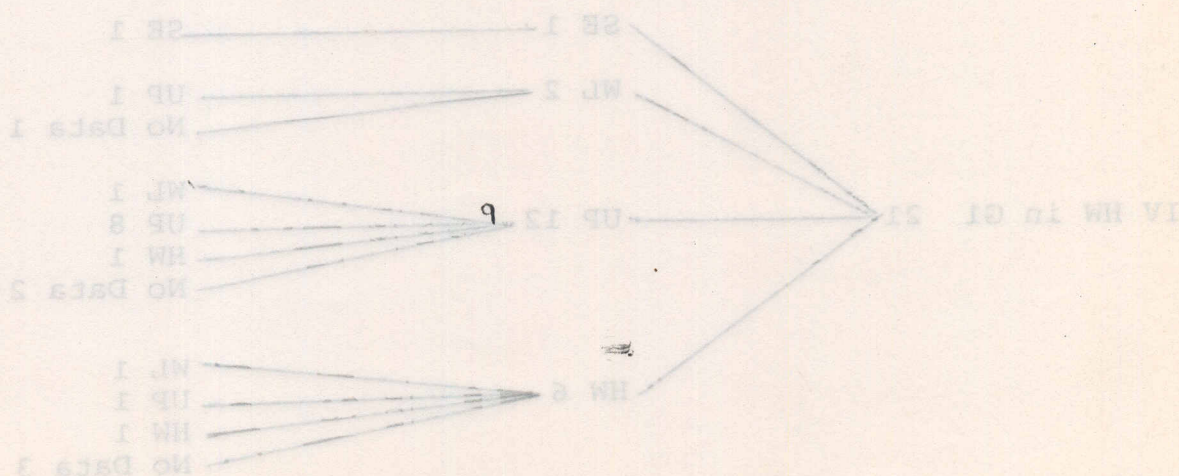
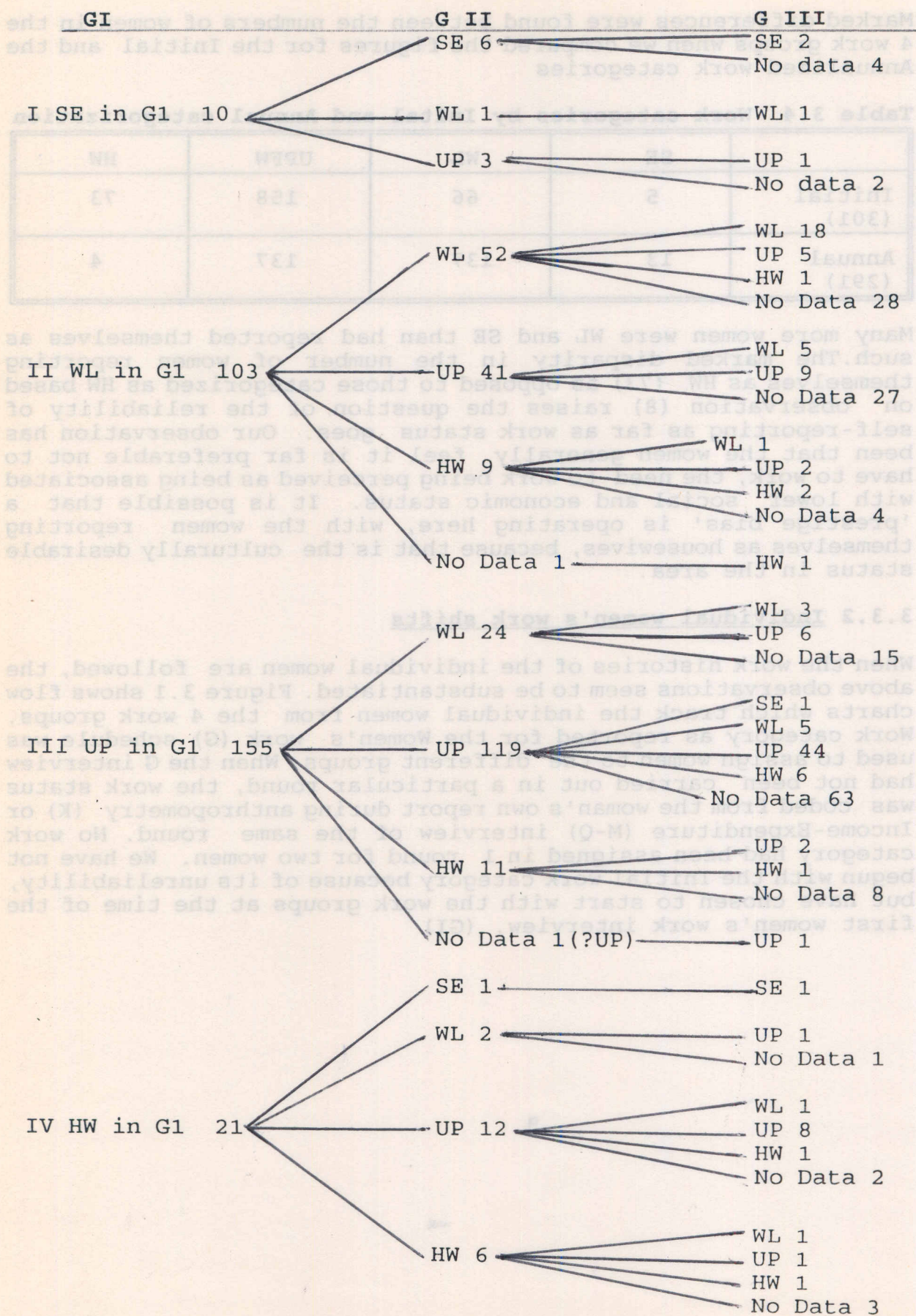




Fig.3.1 WORK SHIFTS FOR WOMEN IN 4 WORK CATEGORIES IN ROUND I





Most women made changes in their occupation several times during the period of observation. In the analysis below, we have examined the pattern and nature of these shifts. 4 villages had three rounds of data collection, over a period of 20 months, data being collected for a total duration of 12 months recall and the other 4 had two rounds, over a period of 16 months which gives us data for 8 months recall. We have used work categorization by hierarchy, and sometimes analyzed data from only the 126 HH who were followed for all 3 rounds, since these provide a more accurate reflection of the actual incidence of changes in women's work activities for a 12 month period. More details comparing 2-round and 3-round households are given in the paper mentioned above.

The number of shifts in occupation is given:

- i) for all 8 villages, subdivided to allow for the different duration of period of observation. Obviously, households where 3 rounds of observation were carried out (reflecting a 12 month recall period) show a higher number of shifts.
- ii) By time and by hierarchy

**Table 3.5** No. of shifts by No. of rounds  
a. Data from G schedules only

No. of shifts	III Round Household		II Round Household		All 291 Household	
0	69	54.8%	126	76.8%	196	67.4%
1	43	34.1%	38	23.2%	81	27.8%
2	14	11.1%	0	-	14	4.8%

b. Data from G & K schedules

No. of shifts	III Round Household		II Round Household		All 291 Household	
0	21	16.7%	65	39.6%	87	29.9%
1	41	32.5%	63	38.4%	104	35.7%
2	28	22.2%	32	19.5%	60	20.6%
>=3	36	28.6%	4	2.4%	40	13.8%
Total	126	100%	164	100%	291	100%

The number of women reporting shifts in occupation is higher when work status is categorized by hierarchy than when it is assigned by time, since when labour opportunities arise, women perform wage labour, albeit for short periods of time, and hence more women are classified as Wage Labour by this method. When they later 'revert' to only UPFW, this appears to be a shift in occupation, although in fact they have often continued to do the UPFW all along. Although the proportion reporting "No Shift" is about 55% in Table 8:1,



note that this takes into account only work status as documented at the women's work interviews. The actual proportion of women who do not shift work categories is probably lower.

Since we recorded the women's occupation by their own reports at the time of the anthropometry (K) interview, we do have several additional points in time from which we can calculate the number of work shifts. The occupation recorded at anthropometry is self-reported and probably less accurate than that assigned at the Women's work interviews, which is based on detailed documentation of work. On the other hand we probably are missing some real shifts if we look only at G occupations, and we do find that the number of shifts reported increases considerably when we use the reports of work status at both Women's work and Anthropometry interviews.

It is important to note that shifts in occupation occurred not only between rounds (approximately a 5 mo. period), but even within a round. We have already pointed out that work status as recorded in the G-schedule, versus that reported some weeks later at the time of anthropometry (K) was often different, and this was observed in over 40% of reports in all rounds. Also, by the time of the A-F interviews, which was approximately 3 or 4 months after census, close to a third of the women seemed to have changed their occupation.

### 3.3.3 Predominant patterns of work category combination

The performance of both WL and UPFW in the same round is a common finding; the number of women reporting both activities being performed concurrently by round is: GI-90/283 (31.4%), GII-67/289 (23.2%), GIII-29/135 (21.5%). Hence we have examined these work patterns with an additional category of Both WL and UP in the same round. Our finding is that several of the women previously categorized as WL or UPFW shift into this combined group. The vast majority continue in this dual group, with a few shifting to either WL alone, and some to UPFW alone. Even if we assign women to one work category per round, we have seen that most change work categories from round to round.

When we examine the work patterns of the women who had changed their activity during the study period, ie excluding those 69 women who remained in the same occupation throughout, and using a single work category for any one round, the predominant patterns seemed to be combinations of WL & UPFW, & UPFW & HW. This is true whether we use time or hierarchy to assign the work categories. However, as shown below,

- a) more women show shifts when work categories are assigned by hierarchy than by time (129 vs 95)
- b) more women fall into the group [WL/UP] by Hierarchy (49) than by Time (40) while
- c) more are classified as [UP/HW] by Time (39) than by Hierarchy (28) which again shows the higher number of shifts and the higher proportion categorized as WL when we assign work category by hierarchy.



Table 3.6 Types of work category combinations

Work Category	III Round households		II Round households	
	Time N=57	Hierarchy N=67	Time N=38	Hierarchy N=62
WL/UPFW	23 (40.4)	33 (49.3)	19 (50.0)	43 (69.4)
UPFW/HW	22 (38.6)	19 (28.4)	13 (34.2)	10 (16.1)
OTHER **	12 (21.1)	15 (22.3)	6 (15.8)	9 (14.5)

\*\*The 'Other' category includes WL/HW, WL/UPFW/HW, SE/WL, SE/UP, SE/HW, with between one and five women in each group.

As we have already attempted to stress, this does not imply that the women are necessarily stable in these groups, but often involves several shifts during the period of study, with women shifting repeatedly from one work category to the other and back again.

### 3.3.4 Constant work categories

As is shown in Fig. 3.1, the following numbers of women stayed in the same work category throughout all G rounds. We have not taken into account the work category reported at the time of the initial (A) interview.

1. SE - 2 of 6 in 3 Rd HHs and 2 of 4 in 2 Rd HHs.
2. HW - 1 of 15 in 3 Rd HHs and 3 of 6 in 2 Rd HHs.

Obviously these two work categories are not of major importance as far as this study population goes.

For the discussion of WL and UPFW households that follows we have used only the 128 households with 3 rounds of observation as we believe these represent the most reliable information regarding annual work shifts.



**Table 3.7 Women in 'Constant' work categories by III round & II round HHs**

Work category	III round Households		II round Households	
	A. No. of women in category in Round I	B. No. of women in category throughout (% of A)	A. No. of women in category in Rd. I	B. No. of women in category throughout (% of A)
i.WL only	44	18 (40.9%)	59	28 (47.5%)
ii.WL+HW	59	25 (42.4%)	65	36 (55.4%)
i.UPFW only	63	39 (61.9%)	86	63 (73.3%)
ii.UPFW + HW	78	59 (75.6%)	92	76 (82.6%)

For calculation ii) above we have combined as one group women doing WL only along with those doing WL who have also been HW in one or more rounds. The same procedure has been followed for UPFW. We feel these are acceptably homogeneous groups, as they would be women who had performed no other economic activity, but have been HW throughout, as well as doing UPFW or WL respectively in some rounds. We see that it is only in the UPFW category that the majority of women continue to do the same type of work throughout the year. This may be due to the fact that certain types of UPFW, such as sericulture and care of livestock continue to be done throughout the year. The situation is different for WL women, of whom only about 41% of women originally WL are WL and/or HW in all three rounds.

When we add an additional category of women doing both WL and UPFW in the first round, several of the women previously categorized as WL or UPFW shift into this group. Again looking at households with 3 rounds, the vast majority continue in this dual group, or in either WL alone (few) or UPFW alone.

### **3.4 FACTORS INFLUENCING WORK CATEGORIES AND SHIFTING**

Work status, landholding and caste seem to be closely linked and are probably also related to the financial status of the household.

#### **3.4.1 Effect of caste and landholding on work category**

The women who are classified as wage labourers very frequently belong to the SC group, and more SC than non-SC are landless.



**Table 3.8 Annual Work category by Caste and Landholding**

	% SE	% WL	% UPFW	% HW	Total
SC/ST	1.6	63.9	32.0	2.5	117
Others	6.1	35.2	56.4	2.2	174
Landless	8.2	63.5	22.4	5.9	89
Marginal	3.5	45.3	50.0	1.2	150
Small	6.8	18.2	72.7	2.3	52
Total	13	137	137	4	291

SC and landless women are far more likely to be wage labourers than non-SC women or those whose families own some land.

Women classified as landless UPFW are engaged in sericulture (raising cocoons), dairying or poultry, or sometimes in agricultural work on leased-in land.

The occupations of the women as reported by them at the initial interview are shown below by caste, and make an interesting comparison with the observed distribution of work categories in the table 3.8. We see that all castes reported themselves as housewives much more often than was observed, that non-SC women reported themselves as WL less frequently than we actually found, and that SC women reported being UPFW or SE more frequently than we observed during the study. (41% vs 34%)

**TABLE 3.9 Self Reported Occupation of Index Mother by Caste**

Occupation of Index Mother	SC/ST	Others	Total
Cultivator (UPFW)	45 36.8%	86 48.1%	131
Wage or salaried	47 38.5%	33 18.5%	80
Self-employed or family enterprise	5 4.2%	13 7.1%	18
House Wife	25 20.5%	47 26.3%	72
Total	122 100.0%	179 100.0%	301 100.0%



A high percentage of women in the village of JK Doddi are categorised as SE - this is due to the fact that there is a high proportion of ST (name of ST group) households there, many of whom are engaged in basket weaving. In India traditional occupations are often defined by caste even today, resulting in this apparently discrepant finding where a group generally regarded as being less privileged falls under the work category which we might expect to have the most favourable outcomes. This suggests to us that such work categorization in a caste based society may not be relevant. However, it also appears that all the castes and communities we have encountered in this population perform wage labour, though with differing frequency. This suggests to us that the pressures of poverty override traditional work restrictions. Wage labour incidence is high in Kadahalli and Halsur, which may be due to the proximity of these villages to Sathanur, a small town which is the Mandal headquarters and perhaps offers more opportunities for work.

### 3.4.2 Effect of Caste & Landholding on work shifts

We have examined the number of shifts according to caste and land holding status of the respondent. There appears to be a tendency for more shifting in landless and SC households. Note that work categorization is by hierarchy, which, as demonstrated earlier results in a much higher estimate of work shifts than does categorization by time.

Table 3.10 No. of shifts by Caste and No. of Rounds

No. of shifts	3 Rounds		2 Rounds		Total	
	% of SC/ST Women	% of Other Women	% of SC/ST Women	% of Other Women	% of SC/ST Women	% of Other Women
0	42%	49%	57%	66%	51%	59%
1	33%	41%	43%	34%	39%	37%
2	24%	10%	0	0	10%	5%
Total No. of Women	45	81	67	97	112	179

SC/ST women seem consistently to have more shifts in occupation.



**Table 3.11 No. of shifts by Land Holding & No. of Rounds**

No. of shifts	3 Rounds		2 Rounds		Total	
	% of SC/ST Women	% of Other Women	% of SC/ST Women	% of Other Women	% of SC/ST Women	% of Other Women
0	38%	52%	65%	61%	51%	58%
1	40%	37%	35%	39%	38%	38%
2	22%	11%	0	0	11%	4%
Total No. of Women	45	81	43	121	88	203

**Note:** Difference less marked in II Rd. HH, otherwise all show more shifting in landless

### 3.4.3 Occupation of husband

In the population we studied, marriages by and large take place within the same caste and socio-economic groups. We would therefore expect the occupations of husband and wife to be related, if not the same. We have information regarding the husbands of 286 women. Of the 15 with no record of the husband, 5 were widows and there was no information about the other 10. Table 3.x gives the occupation of the husband by the work category of the woman. It suggests that more WL have husbands who do WL than do UPFW women, and that husbands of the latter are more frequently engaged in cultivation or business than those of the former. SE women and HW have the highest percentage of husbands doing business.

**TABLE 3.12 Occupation of Husband by Work Cat. of Index Mother**

Work category	Cultivation	Agric./Seri. labour	Govt Srvce	Skill ed worke r	Busi ness	Cas. labo ur	HW/old/dis-abled	Seri cult ure	Graz ing	Oth ers
SE 14	28.6	7.1	7.1	21.3	21.4	7.1	7.1	7.1	-	-
WL 134	32.8	38.0	0.7	8.1	2.2	0.7	0.7	11.2	2.2	2.9
UP 133	45.9	18.8	1.5	7.6	9.8	0.8	0.8	12.0	0.8	2.3
HW 5	-	40.0	-	40.0	20.0	-	-	-	-	-
286	38.1	27.6	1.4	8.0	7.0	1.7	0.6	11.2	1.4	2.1



### 3.5 SELF EMPLOYED WOMEN AND HOUSEWIVES

Both these groups seem to merit some detailed discussion, since they are much smaller in number than women characterized as WL or UPFW, both in the annual work categories and even by round. In addition, we feel that even within these small numbers there is considerable heterogeneity, and thus we have examined certain aspects of these women's activities in particular detail in this section.

#### 3.5.1 Self Employed Women

As is implicit in the hierarchical ranking, an important premise of the study was that the Self Employed woman was likely to be in an advantageous position vis-a-vis other women in that she has more control over income and time, and is more exposed to the forces of the market and the outside world. However, drawing a clear demarcation between a self employed woman and an unpaid family worker can at times be quite difficult. Even the ILO does not have a clear definition for the two categories, and hence the two are often merged. Women can be self-employed in either a traditional occupation or one that is recently embarked upon. An example of the former is of women who are potters or dhobis, which, like many other such traditional occupations, are also dictated by (and might be limited to) the caste to which she belongs. Such caste linkages and the possible confounding by caste must be kept in mind when we evaluate the supposed effect of self-employment.

Initially, 30 women of our study population were classified as self-employed, as they had reported self-employment at one or more points during the study (by A or G work status report). However, we found considerable difficulty in differentiating whether these women were truly SE or were actually UPFW. While the women produce goods (baskets, pots, agarbathi) or contribute time and work to a family enterprise (petty shop, tea shop, thatch making) they often do not benefit directly from the proceeds. Men (either the husband or another adult male) generally purchase the raw materials, market the finished product, and control money received for it. We further found that a distinction between SE and piece-work (which would be considered akin to WL) was difficult to make in some cases such as agarbathi packing or beedi rolling.

The group had agreed on some criteria to differentiate self-employment and wage labour

		SE	WL
1. Some control over income	-	yes	yes
2. Control of work time	-	yes	no (?)
3. Control of procurement and price paid for raw materials	-	yes (?)	no



which was three rounds for 2 of them and 2 rounds for the other 2. All four performed the same type of activity throughout. The other 8 women had been self-employed in one or more rounds, but had switched to another work category at other times. Five of them had reported being SE only in one round.

**Table 15**      **Details of work of women SE in any rounds**

MCU No.	Rd.	Type of Work	Hrs. SE	Hrs. Addl. Wk	Income (Rs.)	Non-SE Rds: Wk. & Hrs/Sea.	Remarks
02-06 B	1	Basket	43	+WL 36	SE 400	In A:Basket making	Small amounts+ Ag.lab+ own. seri SE time but reasonable income from SE
	2	Basket	61	+UP 677 +WL 35 UP 77	WL XL SE 640 WL X	Rd3 UP 481 h	
02-07	1	Basket	1138	None	SE 400	In A:Basket making	Mainly SE - high SE time, reasonable high income
	2	Basket	1138 1600	+UP 28	SE 500	None	
02-26 A	1	Liquor	683	None	SE 1300	In A:Agri.W	Family enter. Mod. to high SE time and income
	2	Shop	363	+UP 19	SE 500	L Rd.3 WL 168 h	
03-18 D	2	Pottery only	69	None	SE 125	In A:HW 24 mos.	Small amount SE time
	3		24	None	SE 65	Rd1 HW	
*03-19 C	3	Hotel	797	+UP 697	SE 300	Rd1 UP 148 h Rd2 UP 185 h	
04-22 D	1	Milk	57	+UP 688	600	Rd2 UP 501 h Rd3 UP 1010 h	Basically UP
*04-41 D	1	Milk	9	+WL 99	SE 400	In A:WL Rd2 WL 360 h Rd3 WL 600 h	Basically WL, sold milk in Rd1-very little time + mod. income







04-70 C	1 2 3	Hotel Hotel Hotel	854 455 343	SE 1200 +UP 47 None	None 600 450	In A:Hotel	Basically family enterprise worker
*06-41 C	1	Shop	104	+UP 407	SE 3500	In A: PettySho p Rd2 UP 431 h Rd3 ND	Family enterprise
06-81 B	1 2	Basket Basket	650 1252	+UP 190 +UP 255	SE 1600 SE 6000	In A: Baskt mkg Rd3 ND	Basically SE mod. to high time and income
08-03 C	1 2	Milk/ Dhobi Milk/ Dhobi	114 150 114 150	+UP 190 +UP 255	201 188 130 180	In A:Dhobi Rd3 ND	1/2 time spent in UP, some income from SE
*08-12 D	1	Milk	19	+UP 710	300	In A:UP Rd2 UP 327 Rd3 ND	Basically UP small amount of time on milk, but mod. income
*08-59 B	3	Flour mill	195	+UP 114	1800	In A:UP Rd1 ND Rd2 HW	Only SE at end

\* SE in I Rd only

XL- Exchange of labour

ND- Not Done







The women categorized as SE are not really a homogeneous group, since we see that both time spent in SE as well as the income from it vary greatly. Several different groups of women emerge from an analysis of their working experiences, and are identified by the assigned group in the table.

- A) 2 women could be called truly SE, spending moderate to high amounts of their time in these activities, and earning a fairly high income from them.
- B) 3 more spent considerable time in other types of activity, but had some income from SE activity.
- C) 4 others work sporadically in a family enterprise and the income reported is not solely the woman's, although she does know what income was earned. These could possibly be also considered self employed.
- D) 3 women are basically HW, WL or UP, spending very little time during the study on SE activities and having relatively little income. Two of these (04-41 & 08-12) are categorized as SE on the basis of only 9 hours out of 3 rounds (or 12 months' observation) and 19 hours out of 2 rounds (8 months observation). Both sold milk, earning Rs.400/- and 300/- respectively.

In conclusion, only 30 women (10% of the whole sample) had been involved in any activity that could be described as SE. Of these 18 had no control over acquisition of materials and/or marketing of finished product nor of the income from the activity, and were thus re-categorized as UPFW. Of the remaining 12, 5 were only SE in one round, some for very short periods of time and little remuneration.

Were women self employed in the true sense of the word, i.e. having control over purchase of raw materials, sale price, and work time, collecting the proceeds of their work and being able to use it at their own discretion, it is certainly conceivable that such work and its attendant benefits would in fact help them to be more aware, have more autonomy and thus be in a better position to determine their children's well being. It appears, however, that the women classified as SE in our study population, probably have few, if any, of these benefits.

### 3.5.2 Housewives

Only four women are categorized as housewives in the annual work categories, meaning that they were housewives throughout the period of observation. There are other women who are housewives in some rounds, but fall into another work category in other rounds. Thus the total number of women categorized as housewives in round 1, 2 and 3 are 21, 27 and 13 respectively. There are probably several reasons that women do exclusively housework in any particular round. Some women are housewives throughout and were never involved in any income-generating activities. Others may be doing only household activities until an opportunity



presents itself for income-generating work, while still others are categorized as housewives in a particular round because they are in the latter part of their pregnancy or in the postnatal ('Bananthi') period, when tradition requires a period of restriction of work of all sorts. About 15 to 40% of women categorized as housewives appear to be restricting their activities to housework for the latter reason as seen in Table 3.x. It is possible that the number is even higher, but data are lacking to substantiate this.

**Table 3.14 No.of women housewives who are Bananthi**

	Tot.# HW in Rd.but not throughout	# HW who are <u>Bananthi</u>
Round 1	17	3
Round 2	23	3
Round 3	12	5
Total	52	11

### **3.5.3 Wage Labourers**

137 women were classified as Wage Labour in the Annual work categories. Of these, 46 women had been categorized as WL in every round (18 for each of 3 rounds canvassed and 28 for both of 2) and never as UPFW or HW. Nevertheless, since the categorization was on the basis of hierarchy, we find that most of them also did UPFW in these rounds. Very few women had done exclusively WL with no UPFW (7, 5, and 7 in Round 1, 2 and 3 respectively). It is also virtually certain that they all did housework as well. An additional 5 who were categorized as WL in some rounds but never as UPFW or SE had stopped doing WL in one or two rounds, during which they were HW. Most of these women also had done UPFW at the same time as WL.

127 women actually did WL and UPFW, either doing both in the same round, or switching from one to the other as opportunities for employment present themselves. Even in this group, there is a very wide range in the proportion and duration of time for which the two activities were performed.

### **3.5.4 Unpaid family workers**

137 women were categorized as UPFW in the annual work categories. These are women who were never involved in WL or SE. 107 were UPFW in every round, while 30 were UPFW in one or two rounds and HW in others. The distinction between homemaking tasks and those we classified as unpaid family work is a rather nebulous one, and may in part depend on which tasks are perceived as traditionally a woman's or do not yield cash income in contrast to those which do result in additional cash income.



For instance, tending to cattle or poultry is not considered UPFW by most women, whereas doing sericulture is. Agriculture related work on family land or participating in a family business enterprise probably fall somewhere in between. It may also be that this disparity is due to misunderstanding by both the investigators and the interviewees when determining the work status - many women may regard their economically productive work as part of housework and thus not report it. For Eg: women tending to livestock, whose produce may be sold, tend to perceive it as a natural extension of their house work. Activity in one's own home is not considered work unless it brings cash earnings, as would be true for sericulture. This type of under-reporting is very widespread, and results in biased data regarding women's participation in the work force even by such sources as the census or NSS. There is considerable variation in the time that these women spend in UPFW, and this is discussed in more detail in Chapter 4.

### 3.6 CONCLUSIONS

From all the above data, we feel that basically our population is one of UPFW, who do WL sometimes and occasionally revert to only housework. Many women do WL when the opportunity presents, sometimes instead of UPFW, but about 30 % do both WL and UPFW at the same time. Thus no clear "work categories" emerge, or do so only in very small numbers of women. The highest number who seem to remain constant in a work category are those doing both UPFW and/or HW throughout (categorization by time) - 76 women or about 25% of the total sample. The vast majority are as described above, UPFW who occasionally do WL or are SE and sometimes discontinue economic activity briefly, when they are classed as HW.







### APPENDIX 3.1: Criteria for assignment to different work groups in Annualized work category

I. If Index mother is performing any activity from no.42 to 80 (excluding 69 - free gathering of food) from section G-6 and

a) If col.8 ("done for whom") is code 1 (self)  
col.9 ("mode of payment") is code 1,2,3,4 or 6  
(i.e.cash /cash+kind /kind /exch. of labour)  
If col 10-18 all 9, takeout MCU to for error)  
**THEN THE INDEX MOTHER IS SELF EMPLOYED. (SE)**

b) Any entry in 47, 63, 68, 70  
**THEN INDEX MOTHER IS SELF EMPLOYED (SE)**

c) If col.8 (done for whom") is 2 (other rels) or 3 (non relatives)  
col.9 ("mode of payment") is code 1,2,3,4 or 6  
(cash/cash+kind/kind/exch of labour)  
**THEN THE INDEX MOTHER IS WAGE LABOURER. (WL)**

d) If col.8 is code 1 (self) and  
col.9 is code 9 (not applicable)  
**THEN SHE IS UNPAID FAMILY WORKER (UPFW).**

II. Also one should check col. 29 to 41 (crop cultivation for family) as well as "Sericulture for self" sheet. If any activity is recorded here

**THEN SHE IS UNPAID FAMILY WORKER (UPFW).**

This categorization will be done on hierarchy basis. i.e. if a woman has reported more than one activity, she will be categorized according to our initial definitions. Eg. if she had both WL and UPFW activities she should be categorized WL. (however, additional categories other than HW should be also be noted down)

III. If she does not do any activity from 29 to 80 but reported only activity from 1-28

**THEN SHE IS A HOUSE WIFE (HW).**

While categorising the Index Mother, if she has not performed any activity during last week, last month or even last 2 months but she has been doing a particular activity in the past (let us say she has been WL for 2 months of the past season) then she should be given the category of WL

a) Any with or col 8- 2 or 3 + Col 9 - 9 make separate list of MCU nos.  
(to check by hand)

b) Col. 75-81 (crop cultivation for others)  
If any with code 1 in col.8, list MCU, to be checked for wrong coding.

c) 47,63,68,70      col 8    col 9  
                         1    and    9      or 2,3 & 9      take MCU







3.  
APPENDIX - 2

Re  
SE & UPFW Classification

(For cases given as SE, we verified whether the Income is going to women or not/ If not we re-classified as UPFW)

ROUND	MCU/HH	WK.CAT	TYPE-WORK	S	REASON	REMARKS
1,2,3	01-07/09	UPFW	Basket makg	Yes	Gives money to husband	
1	01-21/39	UPFW	Beedi fill	No	(No record of women's work in M-Q)	+ Shamshad Jahan, Mehbubi also do beedi work. G income - .5 hr/season HW in II, no III
1	01-22/41	UPFW	Tailor	No	(No record of women's work in M-Q)	146 hr/season. Husb. wk.Tailor 19 hr. UP in II, HW in III. G income -.
1,2,3	01-38/134 (CS)	UPFW	Hotel	Yes	Does not keep money	



ROUND	MCU/HH	WK.CAT	TYPE-WORK	S	REASON	REMARKS
1,2	02-06/16	SE	Basket makg	Yes	Keeps money with her, buys HH provisions	
1,2,3	02-07/17	SE	Basket makg	Yes	Keeps money with her, buys HH provisions	
1,2,3	02-08/18	UPFW	Basket makg	Yes	Gives money to husband, he buys provisions, liquor	
1,2,3	02-09/19	UPFW	Basket makg	Yes	Gives money to husband, he buys provisions.	
1,2	02-26/59	SE	Liquor shop	Yes	She receives money, uses for HH purposes	623/363 hr/seas. Husb. wk -. UP (163 hr) in III
2	02-29/66	UPFW	Hotel	No	DK whether she keeps cash	93 hr/seas. +UP in all 3 rounds Husb. wk -.



ROUND	MCU/HH	WK.CAT	TYPE WORK	S	REASON	REMARKS
2,3	03-18/40	SE	Pottery	No	Pottery- only she does, proceeds entirely hers	
3	03-19/41	SE	Hotel	No	Cash income reported in G. Both husb. & wife work in 'hotel'	Both husband & wife work in 'hotel'
3	03-42/96	UPFW	Unspecified	Yes	Gives money to F-in-law	
1	03-43/97	UPFW	Pottery	Yes	Husband & Fly members are in same activity	G income coded as done for self/family"
1,2,3	03-44/99	UPFW	Agarbathi	Yes	Gives cash to husband	
3	03-50/110	UPFW	Hotel	No	No record of cash to woman. UP in other rounds.	Hotel: bro-in-law & sis-in-law (M-Q. No H.) G Income coded as Done for "Self or Fly."
1,2	04-39/121	UPFW	Betel leaf	Yes	M-Q 1? Hands to husb. who uses for HH	Mugaiah (?husb) betel business G Income-.
1	04-41/120	SE	Milk mrktg	No	Woman reports income G1	G Income -.
1,2,3	04-70/244	SE	Hotel	Yes	She keeps some money	
2	04-74/254	UPFW	Betel leaf	Yes	Hands over all to father who uses for HH expenses	Father/mother wk in business (M-Q) G Income-.



ROUND	MCU/HH	WK.CAT	TYPE-WORK	S	REASON	REMARKS
2	05-11/41	UPFW	Thatch mkg	No	130 hr/s.	Income G-200, M-Q same Husb. does same WL in Rd 1
2	05-27/77	UPFW	Petty shop	No	242 hr/s	Husb. does — same wk. Income G- "Did for self"/M-Q 2210 Did not report SE in Rd 1 (UP 211 hr)
2	06-22/71	UPFW	Dhobi	Yes	Gives to husband	
1	06-41/124 (CS)	SE	Petty Shop	Yes	Keeps some money (Husb. hands over his earnings to her)	
1,2	06-81/304 (CS)	SE	Basket wvg	No	Keeps money - Complete control	
1,2	09-09/404	UPFW	Hotel	Yes	Never keeps money	
1,2	08-03/08 (CS)	SE	Milk mrktg + Dhobi	No	Keeps money. Husb. hands over earnings	
1	08-12/40	SE	Milk mrktg	No		
3	08-59/177	SE	Flour Mill	No		No Rd. I, HW in II, 195 SE in III. M-Q - Provision & Cloth. M-in-law & Husb. wk Provision & cloth (M-Q, No H) Income G3:1300, M-20:0
1,2	08-82/272	UPFW	Hotel	Yes	Gives money to husband	



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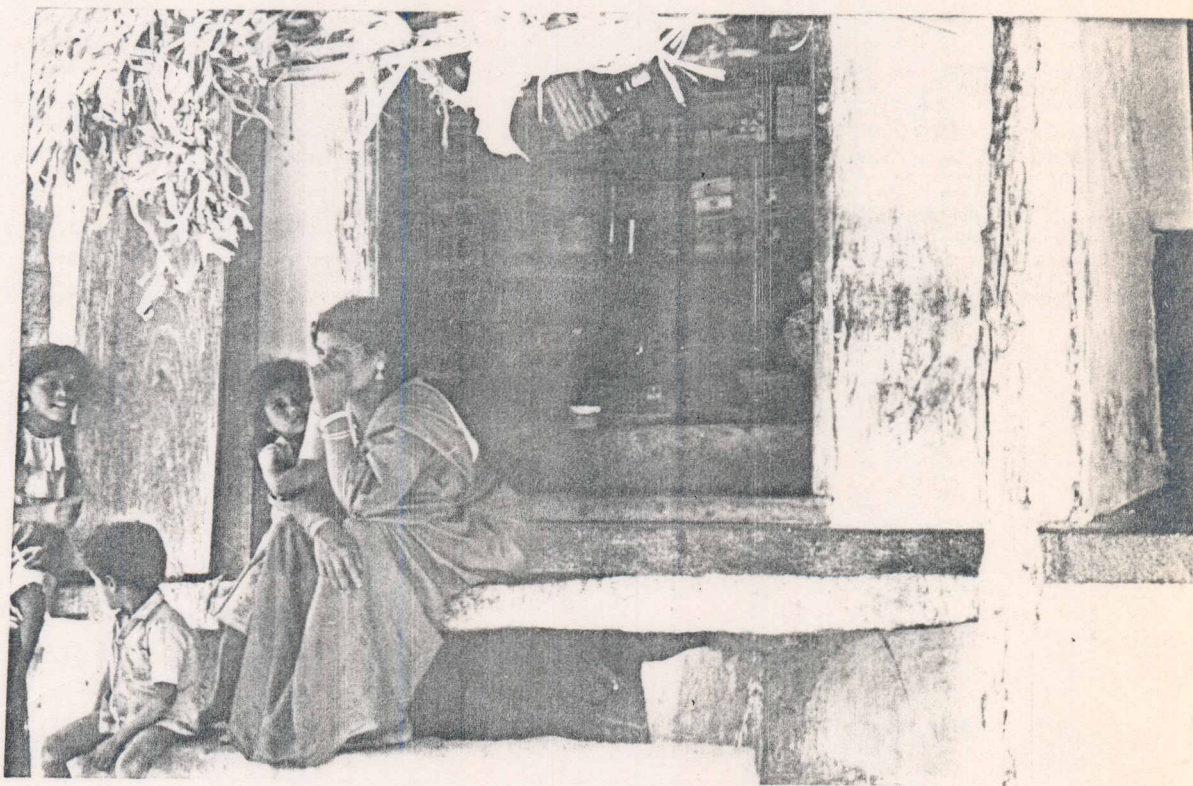








THATCH MAKING



PETTY SHOP









WOMAN POTTER



CLEANING AGRICULTURE PRODUCE







## CHAPTER 4 TIME, PLACE AND MONEY

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In addition to their tasks in the home, women who work on a family handloom spend an average of about 3 hours per day, for two weeks in the season on these activities. While the work load is less in the summer, there is still work to be done then, such as harvesting of castor seed.

Sericulture continues year round, and on the average takes up 4 hours of the day. The women go to the fields in the morning, collect the fresh mulberry leaves, chop them and feed the silkworm larvae. The whole process is repeated in the afternoon. At certain stages of their development, the larvae have to be fed every few hours; sometimes the women have to wake up at night to do this. More details on sericulture are given in Appendix A.2.

The woman who is also a wage labourer may spend additional time on wage earning activities, which can range from being away all day if she is involved in an activity like harvesting, to spending a few hours away from home cleaning grain.

Similarly, self employed women and those involved in family business enterprises spend varied lengths of time during the day and



#### 4.0 INTRODUCTION

It is clear that all the women in the study, irrespective of the work categories to which we have assigned them perform a wide variety of activities, working for varying periods of time, in different locations and for different types of remuneration. These aspects of time, place and money in women's work are crucial to an understanding of how women's work might affect their children's well being, and the following chapter explores these attributes of women's work.

#### 4.1 DESCRIPTION OF A TYPICAL DAY

The woman wakes at 5 or 6, when there is enough light to enable her to embark on her household chores. The house is swept, a rangoli drawn, the cowshed cleaned and poultry fed if the family owns any livestock. Coffee and breakfast are made, the children washed and fed. If they attend school they are dressed and sent off. Some hours are spent on collection of fuelwood, or on gathering fodder or grazing livestock if they have any. This can take considerable time - as Jayamma puts it, "It is easier to get one seru of ragi than a handful of straw for the cow." At 1 or 2 in the afternoon, she returns to her home to ear, wash the vessels and fetch water. She bathes and washes the family's clothes once in two or three days. If it is the slack season she may rest or attend to the younger children for an hour or two. At about 5 she begins to cook the evening meal, often simply heating up something made earlier in the day. She serves the evening meal, washes the vessels, perhaps sits and talks for a while with family and neighbours, and goes to bed by 8 or 9 p.m.

In addition to their tasks in the home, women who work on a family landholding spend an average of about 2 hours per day, for two weeks in the season on these activities. While the work load is less in the summer, there is still work to be done then, such as harvesting of castor seed.

Sericulture continues year round, and on the average takes up 4 hours of the day. The women go to the fields in the morning, collect the fresh mulberry leaves, chop them and feed the silkworm larvae. The whole process is repeated in the afternoon. At certain stages of their development, the larvae have to be fed every few hours; sometimes the women have to wake up at night to do this. More details on sericulture are given in Appendix 4.2.

The woman who is also a wage labourer may spend additional time on wage earning activities, which can range from being away all day if she is involved in an activity like harvesting, to spending a few hours away from home cleaning grain.

Similarly, self employed women and those involved in family business enterprises spend varied lengths of time during the day and



the season on their activities. For instance, Gowramma, who markets milk may spend just 20 minutes per day on this, while Doddahennu works from 6 a.m. to 3 p.m. on selling baskets. Some types of self-employment necessitate the woman being away from the home, while others are carried out at home.

#### 4.2 TIME USE

Collecting data on time-use from rural women who have their own concept of time and perhaps judge it in relation to sunrise or sundown, rather than by a clock, requires great care and sensitivity. Time use data were collected by the recall method. All possible types of activities were specified in some detail on the questionnaire, as it was felt that this would optimally capture the actual time spent in different activities. For example, rather than asking "How much time did you spend on household work?" which it was felt would be too general, household work was broken up into eight different tasks. Thus the total activity list includes 81 activities divided into 10 overall categories which are shown in Table 4.1. The time spent per season was calculated as shown in Appendix 1.

Activities which are usually carried out concurrently, for eg., grazing animals and collecting fuel wood, posed a problem as to the recording and analysis of time data and it is possible that we have over-reported time spent on such over-lapping activities.

The data for this section are essentially taken from the Women's Work (G) and Income/Expenditure (M-R) schedules. More detailed information regarding childcare by household members other than the mother was also collected in the I schedule.

##### 4.2.1 Activities Done in Each Round

Women are involved in a great variety of activities during the day. Unless they are restricting their activity because of imminent or recent childbirth, all of them perform various household and childcare activities. In addition we find that most perform one or more income generating activities in every round.

The mean time spent on different activities (for the women performing them) and the number of women who performed them is seen in table 4.1. The time is generally given in hours per season, unless otherwise specified.



**TABLE 4.1 % of women doing per season and mean time for which done by activity**

Activity	Rd I	N=292	Rd II	N=290	Rd III	N=135
<u>I Household chores:</u>						
Cook & Servg	99.0	324.1	99.3	366.4	89.6	489.7
Carry food for hus/ch.	43.2	47.5	34.8	41.8	8.9	421.4
Cleaning dishes	98.3	87.3	97.6	87.2	7.4	108.3
Fetchg water	96.6	146.4	95.5	153.7	94.1	139.4
Washg clothes	97.3	62.2	97.9	62.6	95.6	63.4
Buying fuel	8.9	9.7	14.5	8.4	5.2	8.1
Sweeping/ cleaning	99.3	56.4	97.9	61.4	93.3	68.0
Swabbing/ Replastering	97.6	28.9	95.8	30.4	94.8	35.7
Marketing	27.7	21.6	18.6	23.0	8.9	69.3
<u>II Childcare:</u>						
Bathg/dressing children	97.3	27.7	97.9	24.6	94.8	32.2
Feedg (liquid/ solid food)	53.4	42.3	35.5	49.0	25.2	70.1
Breast feeding	53.8	95.1	38.3	121.4	34.8	172.6
Others	21.9	31.7	38.3	75.0	23.0	91.4
CareCh>5yr.	52.1	34.3	43.8	36.5	49.6	41.5
<u>III Business:</u>						
Marketg milk	1.4	49.8	0.3	114.0	-	-
Business	5.1	580.1	5.9	475.2	6.7	601.8
Handicrafts	1.0	177.0	1.0	220.3	1.5	239.5
<u>IV Wage or salary work:</u>						
Non-ag WL1	15.4	135.0	12.8	138.1	17.0	156.5
" 2	0.7	62.5	1.0	291.7	1.5	166.5
Land preprtn.	4.4	63.8	6.2	67.4	0.7	7.0
Sowing	4.8	59.8	1.0	35.7	0.7	3.0
Weeding	21.2	120.9	7.2	83.5	2.2	241.7
Watering	0.3	75.0	0.3	111.0	-	-
Harvesting	23.3	66.4	13.8	68.4	14.8	73.9
Transport	1.4	72.7	0.3	14.0	-	-
Others	5.1	59.0	1.7	36.8	1.4	78.0



Activity	Rd I	N=292	Rd II	N=290	Rd III	N=135
<u>V Agriculture for family:</u>						
Grain	47.6	0.1	54.8	4.9	46.0	-
Land preparn.	10.1	13.5	20.0	18.8	0.7	14.0
Sowing	11.6	17.2	6.2	15.7	-	-
Weeding	36.3	124.3	8.6	146.2	-	-
Watering	1.4	111.5	0.7	78.0	1.5	7.0
Harvesting	44.5	15.9	30.7	21.3	55.6	14.4
Transporting	14.4	12.0	5.9	14.7	-	-
Others	5.0	97.8	1.0	108.3	-	-
Vegs/Fruit	13.7	36.3	1.7	108.0	3.0	8.0
Sericulture	39.4	446.0	40.3	450.3	49.6	507.4
<u>VI Animal husbandry:</u>						
Clean animals	8.9	38.3	7.9	37.8	45.9	-
Cleang shed	50.0	49.5	49.7	43.2	42.2	59.9
Grazing	37.7	180.7	33.1	157.1	29.6	296.3
Fodder	36.3	61.6	27.9	48.2	18.5	39.5
Milk,processg.	25.7	38.7	20.0	35.4	20.0	40.7
Poultry	23.0	21.6	19.0	22.1	11.9	19.0
Any other	1.0	113.7	0.7	95.0	-	-
<u>VII Marginal economic activity:</u>						
Cleaning	91.4	34.4	92.1	37.3	82.2	43.3
Dehusking	32.5	28.9	8.3	13.7	3.0	24.8
Grinding	92.8	25.5	92.4	33.9	6.0	33.5
Pounding	22.9	16.2	10.0	9.8	2.2	146.7
Flour making	46.9	23.5	35.9	18.7	20.7	30.5
Other process	11.0	17.9	3.1	23.1	2.2	13.3
Collect fuel	38.0	62.6	34.1	49.2	29.6	73.3
Kitchen garden	12.3	39.2	12.4	53.3	2.2	92.3
Stch/rep cl.	81.2	5.4	73.4	4.9	2.2	2.0
Free gathering food/fruits	11.6	18.4	2.1	13.7	-	-
<u>VIII Self care :</u>						
Eating	-	100.0	80.0	100.0	76.3	-
Bathing*	-	100.0	36.4(*Min)	100.0	34.3(*Min.)	-
Defecation	-	100.0	35.5	100.0	34.7	-
(* Bathing given as min/day since not done daily)						
<u>IX Leisure, religious activity:</u>						
Relig actv	95.5	14.5	76.9	16.7	16.3	23.6
C/P/Social	71.0	28.3	67.6	30.3	4.4	18.8
Leis/rec.	90.1	146.5	94.1	212.1	85.9	232.7
Educ./trg.	0.7	37.0	-	-	-	-
<u>X. Sleeping</u>						
Day	32.0	147.3	42.1	149.6	-	-
Night	100.0	1097.0	100.0	1105.7	-	-



#### 4.2.2 Time Use by Grouped Activities

We have further clubbed the 81 activities into 6 groups, shown in the table below, to facilitate the analysis of time distribution.

**Table 4.2 Time distribution for grouped activities by current work category.**

Activity Group	Percent of Women doing activity and mean hrs/day spent on activ.					
	Rd I N=292 %      Mean(SD)		Rd II N= 290 %      Mean(SD)		Rd III=135 %      Mean(SD)	
Housewk	100	5.9 (1.6)	99	6.3 (1.8)	100	6.5 (1.7)
Marg Econ	99.6	0.9 (0.7)	99.3	0.8 (0.6)	93.2	0.6 (0.7)
UPFW	84.9	3.2 (2.9)	84.8	2.6 (2.7)	84.2	3.8 (2.9)
Childcare	99.3	1.2 (1.1)	98.3	1.3 (1.5)	99.3	1.3 (1.4)
Paid (SE+WL)	43.5	1.9 (2.2)	33.9	1.8 (2.1)	34.6	2.4 (2.7)
Personal	100	2.9 (1.6)	100	3.4 (1.7)	-	-

#### Frequency and intensity of work

We see that almost all women are involved in household, marginal economic and childcare activities, although one or two may report not having performed these in the season. This is most probably because they were in the *bananthana*<sup>1</sup> period. Among these activities, some are done by only a few women. For instance, less than 10% report dehusking, 'other' processing of food, buying firewood or free gathering of food and fruits.

Obviously all women report personal time which includes time for eating, defecation, bathing as well as rest and leisure time. 90% report religious activities as well as some leisure/ recreation, while < 10% report time spent on education or training. Night sleep is not reflected in the table.

About 84% report involvement in some form of UPFW in every round. Certain activities are performed infrequently, either because they are traditionally not considered women's tasks, or because they are not common in our area. Thus, less than 10% report sowing, watering or other agriculture related tasks, such as threshing, winnowing or sorting of seed, growing vegetables or fruits, or cleaning of animals.

<sup>1</sup> The period when the woman's activity is markedly restricted, due to her being in the late antenatal or postnatal period.



Between 33 and 44% report paid work (SE or WL). The commonest agricultural activities performed by women for wages are weeding and harvesting, and the commonest type of non-agricultural is sericulture labour. Few women report land preparation, sowing, weeding, watering, or transporting of crops. As pointed out already, in our population very few women perform activities that were classified under self-employment. These included marketing of milk, business/trade and making handicrafts.

Among the various types of tasks, housework and unpaid family work (often not differentiated by the women) take the most time. The women report a surprisingly short period of time being spent on childcare, which may either be a reflection of childcare activities being under-reported since they are carried out along with other activities, or may in fact mean that the children receive relatively little attention from their mothers. Paid work also takes a relatively small proportion of the women's waking hours, although those women involved in non-agricultural wage labour and in businesses report spending considerable time in these activities.

The activity that seems to consume the most time is cooking and serving food. Averaged over Rd. I & II this takes 345 hrs/season, or just under 3 hrs/day. Other time consuming activities are fetching water and grazing cattle.

#### Location of activity

During the course of the study it became increasingly clear that in addition to the type of work in which the woman is engaged, another very important factor was whether the work was done within the home or took the woman away from it. It is conceivable that the self-employed woman within the home may have more in common with the housewife than with either the self-employed woman or the wage labourer whose work keeps her away from home and children for long periods of time.

Some activities may be performed fairly close to the home, and others a considerable distance away. Questions about the location of certain activities seem to have evoked unlikely responses, which could be due to ambiguities in the wording of the question - for instance, a report of cleaning animals 'in the neighbourhood' could mean that it was done in an adjoining cattleshed, grazing reported as being done 'in home or neighbourhood' suggests that grazing was confused with feeding the animal, free gathering of food and fruit being reported as done 'in the home' may be due to kitchen gardening being reported under this activity.

When we examine the activities according to the same groups as in Table 4.3, we find that, generally speaking, they are performed in the locations shown below:



HH Chores : Cooking and serving, cleaning dishes, sweeping and cleaning, swabbing and replastering are done at home, while carrying food to other family members generally takes the woman out of the village. Collecting water, washing clothes and buying wood or kerosene are done both in and out of the village, while marketing is done essentially within the village.

Childcare: Essentially at home, although types of childcare activities recorded as 'other' are reported as also being done in the neighbourhood. These are probably activities such as bathing the children, sometimes done at a water source situated away from the home.

Business: Marketing milk and handicrafts are done in the neighbourhood. Most women (10/15 Rd.I and 13/18 Rd.II) conduct other types of business in the home or neighbourhood, although about 1/4 of the women reporting business activities go out of the village and one in each round reports the location of business activities being in the village.

Non-agricultural wage labour is mostly performed outside the village, as is agricultural wage labour. Four women reported doing non-agricultural WL 'in home or neighbourhood', possibly due to a misunderstanding on the part of the respondent.

Agriculture for the family has been uniformly reported as being done at home - this is obviously a misunderstanding, since these tasks are performed in the fields belonging to the household.

Animal husbandry Most of these activities are carried out in the home or neighbourhood, except grazing, which about 90% of women report as being done out of the village. Collecting and preparation of fodder is also done in the neighbourhood by many women, out of the village by 1/4 and 1/2 of them in Rounds 1 and 2 respectively.

Marginal economic activities are generally done at home or in neighbourhood, except flour making which is done in the village by about 1/3 of the women, outside it by another 1/3. Also, collecting fuel and free gathering of food and fruits are usually done outside the village.

Leisure and religious activities are performed in the neighbourhood, except cultural/political/social activities which are reported as being performed out of the village - this usually implies a visit to a local fair or religious festival.



**Table 4.3 % women by location of activity**

Type of Activity	No. doing **	% women doing by location			
		At home	Nghbrhd	In vill.	Outside vlg
HH Chores	714	59.4	10.3	14.6	15.7
Child Care	709	89.6	10.2	0.1	0.1
Business	53	5.6	74.1	3.7	16.7
Wage/Salary	228	2.0	2.2	5.7	90.1
Agr.for Fly.	403	65.1	0.5	2.4	32.1
Animal Husb.	499	19.5	50.9	2.6	26.9
Mar.eco.act.	703	76.6	4.7	5.3	13.3
Leisure	695	2.7	68.6	3.7	25.0

\*\* Total number of women reporting this activity in all 3 rounds

#### 4.3 TIME USE BY WOMEN'S WORK CATEGORIES AND SOCIO ECONOMIC STATUS

One extremely important dimension of women's work is the time it consumes. It is crucial that we know how much time women in the different work categories spend on various activities, and how their time is divided between income-generating and other activities. When large amounts of time are spent in economic activities, the woman must of necessity spend less time in other areas. Is it the household chores, child care or the woman's time for selfcare and leisure that suffers? Additionally, it is possible that socio-economic factors such as caste and education may have an effect on the time a woman spends working, and we have examined these attributes of work in the section below.

##### 4.3.1 Time use by current work category

It seems obvious that the type of work a woman is engaged in during a particular round is likely to affect how she spends her time in that round, and we have therefore looked first at time use by the woman's current work category i.e her work category in that round. It would appear that the time-use instrument underestimates the time per day, as mean total time reported by women is only about 22 hours. Mean night sleep time is about 9 hours, but is somewhat higher for women who were housewives (9.6 hrs).

Table 4.4 displays the time distribution data for all three rounds. The data for round 3 is collected from a sub-sample of 135 households, and does not include figures for leisure and self care time, which were not collected in this round. The figures for time spent sleeping at night are also not included.



**Table 4.4 Mean Time in Hours/Day on Grouped Activities  
by Current Work Category**

Work Categor ies	Housewk	Child Care	Margnl Econ.	Unpaid Family Work	Paid Work	Leisure Self Time
SE - R1 N=10	4.9 (1.9)	0.60 (0.4)	1.0 (0.8)	2.7 (2.3)	3.3# (3.3)	2.7 (1.4)
WL - R1 N=103	5.5 (1.5)	1.0 (0.7)	1.1 (0.7)	3.5 (3.0)	1.5@ (1.7)	2.6 (1.2)
UFW - R1 N=149	6.4 (1.5)	1.1 (0.9)	0.9 (0.6)	3.5 (2.9)	n/a	2.8 (1.5)
HW - R1 N=21	5.9 (1.8)	1.1 (0.9)	0.7 (0.9)	n/a	n/a	5.0 (2.7)
	**	NS	*			**
SE - R2	4.9 (3.3)	0.6 (1.1)	1.1 (1.2)	0.5 (0.7)	4.3# (4.0)	3.7 (1.9)
WL - R2	5.9 (1.6)	0.9 (1.0)	1.0 (0.7)	2.9 (2.9)	1.3@ (1.5)	2.8 (1.3)
UPFW - R2	6.5 (1.8)	1.1 (1.0)	0.8 (0.5)	2.9 (2.7)	n/a	3.5 (1.6)
HW - R2	6.3 (2.3)	2.0 (2.6)	0.6 (0.5)	n/a	n/a	5.0 (2.3)
	*	**	**			**
SE - R3	6.6 (1.1)	0.8 (0.5)	0.6 (0.5)	0.4 (0.5)	3.5# (2.9)	Data not collect -ed in Round III
WL - R3	5.9 (2.3)	0.6 (0.5)	0.9 (0.8)	2.0 (2.4)	1.6@ (1.9)	
UPFW - R3	6.7 (1.5)	1.4 (1.3)	0.6 (0.7)	1.4 (1.6)	n/a	
HW - R3	6.5 (1.1)	2.3 (1.3)	0.2 (0.2)	n/a	n/a	

# SE & WL @ WL only

We see some differences in the time distribution between the rounds. Self-employed women spend more than twice as much time as Wage labourers in paid work, but about half the time on unpaid family work tasks as compared to other women. Housewives have twice as much leisure/personal time than do others.



Table 4.5 displays the data for activities as a percentage of the total day. Sleep at night is excluded, hence the total is not 100%.

**Table 4.5 Percent of total day spent on various activities, by Work Category in the Round**

Work Cat eg.	% of total day spent in activity group						TOTAL HRS. PER DAY
	HW	Marg Ec	UPFW	Paid (SE+WL)	Child care	Person al	
<u>RD 1</u> SE	20.0 (7.1)	4.1 (3.4)	11.0 (8.8)	13.9 (13.7)	2.5 (1.6)	11.5 (5.6)	24 (2.1)
WL	22.6 (6.5)	4.6 (3.0)	13.9 (11.4)	6.3 (6.6)	4.1 (3.0)	11.2 (5.8)	23.9 (2.4)
UP	26.9 (6.4)	3.6 (2.5)	13.9 (11.0)	0	4.6 (3.6)	11.8 (6.5)	23.9 (2.2)
HW	26.5 (8.1)	3.2 (3.9)	0	0	4.8 (3.9)	22.4 (11.6)	22.4 (1.7)
<u>RD 2</u> SE	19.6 (12.8)	4.3 (4.2)	2.3 (3.5)	18.0 (17.4)	2.4 (4.2)	15.1 (7.2)	24.1 (2.5)
WL	25.0 (6.7)	4.3 (2.7)	11.7 (11.3)	5.2 (6.0)	3.7 (4.3)	11.8 (5.6)	23.8 (2.4)
UP	27.1 (7.4)	3.3 (2.0)	11.5 (10.4)	0	4.4 (3.9)	14.6 (7.0)	23.9 (2.1)
HW	27.0 (10.0)	2.4 (2.1)	0	0	8.2 (9.9)	21.5 (10.4)	23.3 (1.7)

Note that the sum of the time spent on all activities is less than 24 hours for housewives. Perhaps recall for the routine activities of this work category is the least accurate of the entire group of women, and is underestimated.

We see from the above tables that SE women spend an average of 3-4 hours/day on SE and WL activities combined, although the majority of time is on SE (mean 1.8 hrs.). They spend the most time on economic activities and report the least HW and childcare time. Marginal economic and personal time is about the same as for WL and UPFW.

WL report the lowest personal time, and slightly higher HW time than SE.

UP spend the least time in income-generating activities, and about the same amount of time as housewives in doing HH activities.



HW report strikingly high personal time when compared to the other three groups. This could well be due to the fact that many of them are housewives in a particular round because they are in the latter part of their pregnancy or in the postnatal ('Bananthi') period, when tradition requires a period of restriction of work of all sorts. If we were to exclude these women, and look at the leisure time for only those women who are HW for other reasons, we would almost certainly find their leisure and personal time considerably lower.

#### Time spent on economic activities

The duration of time spent in economic activities varies considerably as shown in the table below.

**Table 4.6 Frequency dist. of women's work time by round**

Hrs per season	Round I		Round II	
	WL	UP	WL	UP
0-50	23.4	16.5	30.9	30.3
51-100	21.6	14.3	22.2	21.0
101-200	23.4	19.5	27.2	21.0
201-300	10.8	19.0	9.9	13.0
301-400	10.8	7.8	2.5	3.8
>400	9.9	22.9	7.4	10.9
Mean/SD	185.1/194.6	257.3/228.1	148.2/178.3	161.8/180.2
Range	6-1200	1-1058	6-968	1-1006

Only about 10-20% of women work for more than 400 hrs. per season on either UPFW or WL while 30 to 50% report working for less than 100 hours. The time spent on all economic activities combined (UPFW as well as paid work) ranges from 6 hours to over 1400 hours per season.

#### Wage Labourers

The average time spent on wage labour in Round I and II is 1.8 and 1.4 hours per day respectively. These figures may be misleading, as wage labour activities are typically carried out for several hours a day and for a few days at a stretch during the season. The time spent on most WL activities on a typical day is actually between 6 and 8 hours while the mean number of days worked per season is 13.2 in Rd.1, 11.6 in Rd.2 and 16.7 in Rd.3. Only 7-9% of wage labourers spend more than 400 hrs per season in this activity. Two women worked for more than 1000 hours in round I and one in Round II.



### Unpaid family workers

The mean time spent on unpaid family work activities was 257.3 hours in the first round, and 161.8 in the second. There are quantitative and qualitative differences even between these women, with the time spent on UPFW ranging from about an hour to over 1000 hrs. per round. Between 30 and 50% of women spend less than 100 hours per season on UPFW activities, while only 10-20% spend over 400 hours per season.

#### 4.3.2 Time use by annual work categories, caste and schooling

The annual work category has, predictably, less relevance to the woman's time distribution in each round, but we might still expect to see some effect. We have examined this in the table below. Since there are only 4 women who were HW throughout the year we used a combined category of UPFW/HW for the annual work category.

**Table 4.7** Average time in grouped activities  
by Work, Caste, Schooling.  
(All 3 rounds combined)

	SE	WL	UPFW/ HW	SC/ST	OTHER S	NO SCH	SCHG.
HW	5.4	5.9	6.4**	5.9	6.2*	6.1	6.1
MAR/EC	1.1	1.0	0.8**	1.0	0.8**	0.9	0.8+
CCARE	0.6	1.0	1.2*	1.3	0.9**	1.0	1.1
UPFW	1.9	3.2	2.7	2.5	3.1*	2.9	2.8
WAGE	2.8	0.9	-	0.8	0.7	0.7	0.7
PERS.	3.1	2.9	3.4*	3.0	3.2	3.1	3.5

+  $p < 0.1$       \*  $p < .05$       \*\*  $p < .01$

Our findings do not differ very much from the time use data using the current work categories, although the actual figures change slightly. We see that SE women spend the least time in UPFW, housework, and also in childcare time. This could be because they have the oldest children. They spend almost thrice as much time in paid work as do wage labourers, but the time spent in all economic activities is only slightly more. WL women spend the highest time in UPFW, and have the least personal time, while unpaid family workers and housewives report more personal time than the other 2 categories. They spend the most time on housework and childcare but it must be remembered that they also have the youngest children.

SC women appear to spend significantly more time on childcare and marginal economic activity and less on housework and UPFW, while the level of schooling seems to make no difference.



#### 4.3.3. Time away from home

Since this is presumably time when the child is either left alone or cared for by alternate caretakers, it is obviously a potentially important attribute of work. It is possible that the child is sometimes taken along by the mother when she is working away from home, but we cannot identify these occasions. However, even having the child with her does not mean she is able to provide adequate supervision. When Chikkamma was washing clothes at a pond, one of her children fell into the water unobserved, and was only saved because the elder brother called out. Other women, like Thayamma lock the children out of the house when they go to work. She tells her elder year old son Manju to look after the younger Lokesh, and to call her from the nearby mulberry field where she is working if he needs her.

#### 4.4 SUPPORT FROM OTHER HOUSEHOLD MEMBERS

The amount and type of support the women receive from other household members varies a great deal. As shown in section 5.7, the mean time spent by others on feeding the child is about 2/5 of total feeding time by mother and others. Most of the women from whom we collected qualitative data felt that they had to handle the major part of the household and childcare tasks. From our case-studies we learnt that women obtain help from a considerable range of others - some from family, others from friends and neighbours - and also that the tasks performed by helpers depend on the age and sex of the helper.

Help with household chores is usually from a member of the immediate family - Puttalingamma's husband cooks on the days when she cannot because she is menstruating, but never at any other time. Shivalingamma's eldest daughter used to be of great help to her mother, but has begun to go out for wage labour from 6a.m. to 6p.m. and cannot help much any more. Kalyanamma told us that she was able to perform sericulture because her daughter helped with most of the housework. In tears, she expressed her fear of being left to cope alone after her daughter's wedding.

The women seem to get help with child-care from a wider range of people. Sometimes the care-taker for a child is an older person, usually a woman. Shivamma leaves her two elder daughters in her mother's house when she has a lot of work, while Puttalingama has an aunt who is a neighbour and looks after her children now and then. More frequently we are told that it is the older sibling, usually the older daughter, who cares for the younger children in the family. Sometimes it is another child in the extended family - Jayamma's only daughter, Shyla, who is just over 2 years olds is frequently watched by Mahadevi, the sister-in-law's daughter who is 9. The quality of care provided by these care-takers who are children themselves, is often far from adequate.



#### 4.5 INCOME AND EXPENDITURE

In rural Karnataka, almost 50% of households subsist on a daily per capita expenditure of Rs.3 or less (Children and Women in Karnataka A Situation Analysis 1990. ISEC Bangalore)

##### 4.5.1 Household Income

The income of the household, and the way in which this income is spent, are obviously of great importance in determining the well-being of the individuals in that household, especially of the children. Since our households are selected from the poorest sections of the population, we would anticipate finding low incomes and expenditures reported by the study households. In the section that follows we have examined both total household income as well as the contribution made by women. We only have data on earnings in cash or kind for SE and WL women. Although the woman's contribution via UPFW to family income is incontestably important, it would be a difficult and unreliable process to calculate an imputed value for her time in UPFW, and we have not attempted this exercise.

Table 4.8 Household Income Per Capita<sup>2</sup>, by Round and Annual Work category

Annual work category	Round I Income per capita Mean (sd)	Round II Income per capita Mean (sd)	Round III Income per capita Mean (sd)
Self Employed	1406.95 (1319)	1962.4 (2471)	997.61 (792)
Wage Labourer	508.69 (414)	567.74 (506)	654.92 (772)
UPFW/HW	644.62 (591)	694.5 (625)	1070.11 (1403)
Total	651.43 (588)	693.61 (808)	871.61 (1124)

The per capita household income is markedly higher for the self-employed women, and lowest for the wage labourers.

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<sup>2</sup> We have calculated a child under xx years as 0.5 of adult equivalent.



It has been suggested that expenditure is a more reliable estimate of economic status than income. Also expenditure on food as a proportion of total expenditure is one measure of the economic status of a household. We have analyzed these data, which are displayed in Table 4.9.

**Table 4.9 Per capita total expenditure, per capita food expenditure and food expenditure as % of total expenditure by Round and Annual Work Category**

Exp. by round	SE	WL	UPFW/HW
<b>Rd. I</b>	N = 284	N = 289	N = 132
Total exp. per cap	1718.7	1146.7	1360.7
Food Exp. percap	747.2	689.4	713.8
Food as % of tot. exp.	56.2	64.7	60.1
<b>Rd. II</b>	1821.2	1084.5	1284.4
Total exp. per cap			
Food Exp. per cap.	661.9	641.0	681.7
Food as % of tot. exp.	53.0	64.8	60.5
<b>Rd. III</b>	1521.4	1301.7	1613.2
Total per cap. exp.			
Per cap. food expenditure	787.3	735.8	839.1
Food as % tot. exp	53.7	61.7	58.5

Both the total expenditure and food expenditure per capita are consistently the lowest for wage labourers. The expenditure on food as a proportion of total expenditure is significantly different in the three groups, being lowest for the self-employed and highest for the wage labourer. This suggests that the wage labourers are economically the worst off.



#### 4.5.2 Women's Income

It is often postulated that the woman's status in the household is considerably affected by the extent to which she contributes to the household income, as well as by the type of work she does. This is borne out to some extent by the case studies. Rajamani said to us 'Sericulture involves a lot of work. The silkworms have to be fed often and at specific times - but our work is taken for granted - not noticed and we don't earn any money either. It is not like going out and earning.'

While it is not possible for us to quantitate her status or autonomy, we have attempted to at least examine the women's cash income. Table 4.10 displays the income for self-employed women and wage labourers as total amount and percentage of HH income by round.

**Table 4.10 Women's Income in Rs and as % of HH Income by Current Work Category**

Work category in Rd.	Round I		Round II		Round III	
	Total Income	% of HH inc.	Total Income	% of HH Inc.	Total Income	% of HH Inc.
SE	1010.60 (1010) N=10	18.7%	1239.29 (2107) N=7	19.1%	843.00 (797) N=5	24.3%
WL	199.01 (296) N=103	13.9%	154.84 (217) N=79	16.9%	251.03 (384) N=35	12.9%

We have already seen in Chapter 3 that the income from SE activities is very varied, with some women potters reporting as little as Rs. 65/season, while basket makers and women employed in family enterprises report more than Rs. 1000 per season. The mean income for this group, however is higher than for the wage labourers.

While the the above table suggests that SE women contribute a much larger proportion of the household income, this may not be strictly true. There is considerable difficulty in clearly determining what part of the total income can be considered the woman's own income, especially when her work is in a family enterprise. Bearing this in mind, we see that the WL and SE women generate between 13 and 25% of the total household income.

Income from Wage Labour is probably the most reliably reported of all our income data. Women are paid much less than men are for wage



labour. The amount paid depends on the activity performed and on the demand for labour at the time, being higher at harvesting or transplanting time. The average amount is about Rs. 6 per day, which may increase to Rs.10 or 12 at times of peak demand. Payments are most commonly made in cash, although they are occasionally made in kind (most often grain or food).

The 103 women who were classified as WL in Round 1 report mean total earnings of Rs. 176.4, and in round 2 the 80 WL women have mean total earnings of Rs. 141. Mean cash earnings are only slightly lower, as earnings in kind are not very large. Between 5 and 14% of women in the various rounds report no earnings in cash or kind - these are probably women who do wage labour as an exchange of labour. The mean income figures include these women, and would be somewhat higher if they were excluded. As is shown in table 4.11, most of these women earn less than Rs.200 in the season and only between 10% and 15% earn more than Rs. 500.

**Table 4.11 Earnings for Wage Laborers by Round**

	Round 1 (N=103)	Round 2 (N=79)	Round 3 (N=36)
0 (probably exchg of labr)	13.6%	11.3%	5.6%
1 - 100	33.0%	41.5%	44.4%
101 - 200	21.4%	26.3%	16.7%
201 - 300	11.7%	8.8%	11.1%
301 - 400	10.7%	2.5%	2.8%
401 - 500	1.9%	1.3%	2.8%
500 +	7.8%	7.5%	13.9%

\* Rd. 1: 4 women Rs.510-550, 1 woman Rs. 788, 2 women Rs.1200  
Rd. 2: 4 women Rs. 504-660, 1 Rs.1320

Many of the women tell us that their earnings are used for domestic expenses, and that the men in the household reduce their share of the expenses when the women earn. Rajamani tells us 'When I used to work he used to spend less for the house, and I had to spend for the dal. That is why I stopped going out for work.'

#### **4.5.3 Savings and indebtedness**

Savings are very rarely reported, and the women usually talk of saving by buying jewellery or cooking vessels. Thayamma's family is unusual in that Thayamma's husband has taken insurance for Rs.5000 in his daughter's name. He says "it may help at the time of her marriage. If we want a loan they will give it to us without interest providing we have contributed 80% of the loan. They have



to pay Rs.195 every 6 months and have so far paid 3 instalments. Other than this example, we found that savings tend to be minimal and are usually invested in jewellery or cooking vessels.

Debt : An aspect of many of the study households that particularly struck us was the frequency of indebtedness. In fact, these families seem to survive essentially on loans, often from local money lenders and taken at prohibitive rates of interest. A family which borrows Rs. 100 sometimes has to pay back as much as Rs.30/- per month in interest alone. They have barely paid off one loan when they need to take another, and sometimes never manage to pay off a loan, but have to borrow further amounts even to pay the interest, thus being entrapped in a cycle of perennially increasing indebtedness. Some individuals have to become bonded labour in the system locally known as 'jeetha' to attempt to pay off these debts. More reports from the case study households appear in the discussion of debt in Ch.7.

Table 4.12 shows the proportion of households with loans, which is very high. More WL, SC and more landless households in the last two rounds seem to have loans.

Table 4.12 % Of all households reporting Loans by Round

	Round I		Round II		Round III	
	# in rnd	% with debt	# in rnd	% with debt	# in rnd	% with debt
<u>Ann.wk.cat.</u> SE	12	75.0	13	69.2	9	66.7
WL	135	70.4	135	79.3	62	95.2
UP/HW	137	56.2	141	74.5	61	72.1
<u>Caste</u> SC	115	70.4	115	80.9	53	88.7
Other	169	59.2	174	73.6	79	78.5
<u>Landholding</u>						
Landless	87	59.8	87	82.8	45	86.7
Marginal	158	67.7	160	74.4	72	83.3
Small	39	56.4	42	71.4	15	66.7



Table 4.13 gives the mean amount of the loans, which is between Rs.2000 and 6500. Wage labourers, SC and landless families seem to have lower debts - this could be because they are not given large loans as readily.

**Table 4.13 Average amount of Loan by Round**

	Round I	Round II	Round III
Ann.wk.cat. SE	2896.9	4722.2	6500.0
WL	3131.6	3119.5	3685.1
UP/HW	4495.7	4987.0	4694.4
Caste SC	2500.7	2792.44	2970.1
Other	4671.9	5002.7	5219.0
Landholding			
Landless	2011.7	2988.9	3060.7
Marginal	3962.7	4256.6	4754.7
Small	6415.0	5943.3	5630.9

Ann.wk.cat. SE	WL	UP/HW	Caste SC	Other	Landholding Landless	Marginal	Small
65.7	32.3	72.1	88.7	78.2	86.7	83.3	66.7
12	132	137	112	169	87	158	39
72.0	70.4	56.2	70.4	59.2	59.8	67.7	56.4
13	132	141	112	174	87	160	42
69.3	79.3	74.2	80.9	73.6	83.8	74.4	71.4
9	62	61	53	79	42	72	12
Round III	Round II	Round I					
# in	# in	# in					
with	with	with					
debt	debt	debt					



Table 4.14 displays the reason for taking loans. Loans are most commonly taken for 'household purposes' ie to cover living costs. Twenty per cent of loans are taken for the acquisition of assets such as livestock, vehicles or borewells. Expenses for marriage or death ceremonies are the reasons for incurring 13.7% of the debts.

**Table 4.14** Reasons given for taking loan

Reason stated	% of HH with loans
Household purpose	76 (47.5)
Medicine/Sickness	7 (4.4)
Marriage	17 (10.6)
House construc/repair/purchase	15 (9.4)
Purchase of livestock	20 (12.5)
Purchase of vehicle	1 (0.6)
Purchase of land(non-agri)	4 (2.5)
Borewell	3 (1.9)
Death ceremony	5 (3.1)
Land irrigation	4 (2.5)
Business	2 (1.3)
Purchase of Agricultural land	4 (2.5)
Others	3 (1.3)

We have found that most households seem to have expenses in excess of their income over the study period, and as shown in Table 4.15, the loan amounts appear to closely approximate the difference between income and expenditure, leading to the assumption that most households in the study population survive from year to year by tiding themselves over by borrowing money.



Table 4.15 Amount of loan by Income/Expenditure disparity over the study period

Expenditure minus Income N Amount disparity	Mean loan
10 < 1000	5040
113 1001-5000	5680.5
106 5001-10000	7868.4
41 100001-20000	9149.1
4 200001-40000	13475

All the findings presented in this chapter bear out the premise that these are essentially very poor households, living from hand to mouth and often deeply in debt. To some extent, though we see disparities in economic status even within this group of the under privileged.



#### APPENDIX 4.1

- As is seen in the G schedule, time use data were collected for a)
- the day previous to the interview, in minutes per day
  - a typical day, in minutes per day
  - the past week, in days per week (also with codes for once in the past fortnight and once in the past month)
  - the past season, as throughout, sometimes and occasionally.

We calculated a season as being 122 days. If an activity was reported as being done 'Throughout', it was calculated as being 0.94% of this time, if 'Sometimes' as 0.5% of the time and 'Occasionally' was calculated as 0.25% of the 122 days. Activities such as eating, sleeping and defecation were assumed to be done every day.

The time per season was calculated as the time spent on a typical day X number of days in the past week (which assumes that the past week is typical of the whole season) X the appropriate factor as above.

#### Description of sericulture

What we will be describing as sericulture is the small-scale production of silkworm cocoons; the activities include the cultivation of mulberry and the rearing of silk-worms. Some women in our study population perform both activities, others restrict themselves to one or the other.

#### Mulberry cultivation:

Mulberry is a small perennial shrub. The type of mulberry cultivated as food for the silkworm is the white mulberry, or *Morus alba*. There are two varieties of mulberry used for sericulture, commonly referred to as *local* and *'fain'* or *M2*. The latter is a hybrid capable of about 25% more leaf yield than the local variety of mulberry.

Mulberry grows on practically any type of land other than very steep slopes. The plants are started by planting cuttings, which is done just before the monsoon for rainfed land, but at any time on irrigated plots. Careful weeding is critical until the plants are well established, so that the growing young plants are not smothered. At least two weeding are carried out during the first 6 months after planting of cuttings - once 3 months after planting and again after an interval of 2 to 3 months. Leaves should not be harvested before the plants attain full growth. Under rainfed conditions this takes 10 to 12 months but when water for irrigation is readily available and the field is irrigated regularly, the plants reach full growth in about 6 months time. After this the first pruning is carried out, followed by the application of fertilizers within 3 to 4 weeks. The first



## APPENDIX 4.2 SERICULTURE

### INTRODUCTION

### DESCRIPTION OF SERICULTURE

### NUMBER OF WOMEN PERFORMING SERICULTURE IN EACH ROUND

### TIME INVOLVED

### INCOME FROM

#### Introduction

Karnataka has been well known for many years as a major producer of Indian silk. Sericulture is widespread in several areas of Karnataka and in recent times, there has been a considerable increase in participation by small rural households in sericulture, which has been widely touted as an effective income-generating activity for women.

The performance of sericulture activities is peculiar to the ISST study population and is described in detail below, since it may be unfamiliar to many.

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harvest is possible about 2 1/2 months after pruning and subsequent harvests may be made at 6-to-8-week intervals, depending on growth. The plants continue to yield for over 15 years. Under rainfed condition the yield is 10,000 to 15,000 kgs of mulberry leaves per hectare, and under irrigated conditions 17,000 to 25,000 kg per hectare.

### Silkworm cocoon production

Different varieties of silkworms are available, including new hybrid strains. The eggs, called "layings" are purchased from private or government sources, and then reared as described below. The eggs hatch in 5 to 6 days, and the first stage worms are kept in rearing trays, or "thattu", and feeding with mulberry leaves is begun. The worms are voracious feeders, requiring to be fed several times during the 24 hours. Silkworms increase in weight about 10,000 times from the time of hatching to final spinning of the cocoons, which takes approximately 24 to 25 days and goes through the various stages below.

I stage	3 to 3 1/2 days /	I moult
II stage	2 1/2 to 3 days /	II moult
III stage	3 to 3 1/2 days /	III moult
IV stage	4 to 4 1/2 days /	IV moult
V stage	6 to 7 days /	Spinning

After completion of the IV stage the worms cease feeding and become ripe for moulting. The majority of the worms will moult in 24 hrs and the total time taken for all the worms to moult does not exceed 2 days. Moulting should be done in well ventilated rooms or in the shade in the open to facilitate undisturbed spinning.

Spinning of cocoons by the worms takes place over 2 or 3 days and the spun worms turn into pupae by the next day. Cocoon harvest is delayed till the 6th day. By this time, all the worms should have formed into pupae and the cocoon shell will also have dried sufficiently to withstand the transport of cocoons in bulk lots.

The rearing of silk worms requires considerable care and meticulous adherence to proper cultivation technique at all stages.

Silkworms are subject to many diseases which can wipe out a complete crop. Some of the prevalent diseases are colloquially known as *Ujji*, *Sappe* and *Mascardine*. It is easier to prevent diseases occurring, as once they have occurred all or most of the crop is usually lost.



**Rearing House:** There should ideally be a separate house or room for rearing silk worms and it should have sufficient number of windows to ensure free cross ventilation. It should also be possible to make it reasonably air-tight, so as to facilitate effective disinfection of the room when required. A high ceiling, upto 10 feet or so, is desirable so that wide fluctuations of temperature outside the room do not affect the conditions inside very much.

**Environmental requirements:**

Atmospheric temperature and humidity have considerable effect on the growth and health of silk worms. The ideal temperature and humidity conditions are 24 degree C to 27 degree C and 70% to 90% relative humidity, the young worms requiring higher temperature and humidity and the older worms lower temperature and humidity. Thus during the summer, when the day temperatures rise to high levels, provisions for cooling need to be made, and during the colder months, necessary steps to raise the temperature to the desired level should be taken through artificial heating of the rooms.

**Quality of leaves**

The start of silkworm rearing should be so timed that the bulk of the mulberry harvest is made and utilised at the correct stage of leaf maturity (before the leaves get overmature or turn yellow). Timely harvest of leaves ensures both higher leaf yield and better quality of leaves for feeding silk worms.

The quality of leaf may also vary considerably from season to season. In the rainy season, although the leaves grow and mature fast, they contain more moisture. Because of this, they tend to increase the humidity of the bed excessively. This should be controlled through feeding of a reduced quantity of leaf or of more mature leaves containing less moisture.

Four feeds per day may be found adequate, since the leaves neither wither or increase bed humidity, leading to normally successful crops of cocoons.

**Rearing of worms**

Crowded conditions lead to under nourishment and uneven development of the worms in the bed. It is also advisable to keep the rearing trays or thatte separated on the racks, leaving one tier empty between two trays, at least till the final month. This ensures better ventilation of the rearing beds and eliminates building up of excessive humidity over the bed.

By adopting these improved techniques it is possible to obtain



about 35 to 40 kgs per laying in summer, while the yield in winter goes up to 50 - 55 kgs on an average.

### Practice of sericulture in the study population

During the initial interview, 96 women reported being involved in sericulture, 29 as a primary activity, and 67 as a secondary one. The number of women performing sericulture labour was only eight, the rest doing it as an income-generating activity for the family. In addition, 158 men reported being involved in sericulture. Of the 44 who reported it as their primary activity, 3 were sericulture labourers, and of the 114 for whom it was a secondary activity, 15 were sericulture labourers.

During the first, second and third rounds we found that 39.4, 40.3 and 49.6% of the women interviewed were involved in sericulture. Not all women continued to perform sericulture in every round - of the 80 women who performed sericulture in either of the two rounds for which they were studied, only 61.3% did it in both rounds. Of women who were observed for 3 rounds, 54 did sericulture in round I, 49 in round II, 63 in round III, and only 29 in all three rounds.

The mean time spent on sericulture was 461.2 hrs. per season, and the mean income reported per season was Rs. 1573.6. Thus, when the crop is successful, sericulture provides a good income for these families. However, the failure rate is high, 8.3% of women in all three rounds reporting failure of the mulberry crop, while 34.7% reported failure of the silkworm crop due to a variety of diseases. These failures are a major catastrophe for the families, who have often invested heavily in the crop.

Puttalingamma was very dejected at one of the interviews, and had not even eaten that day. The sericulture crop had failed, in the 4th stage due to masecardine. She had bought 50 more eggs and they too had died. Both times she had taken a loan to pay for the eggs. She had just sold the mulberry leaves for Rs.100/-, and had lost a lot of money.

Mahadevamma also told us that for the prior 7 months all the sericulture crops had failed and she had not made a single paisa.

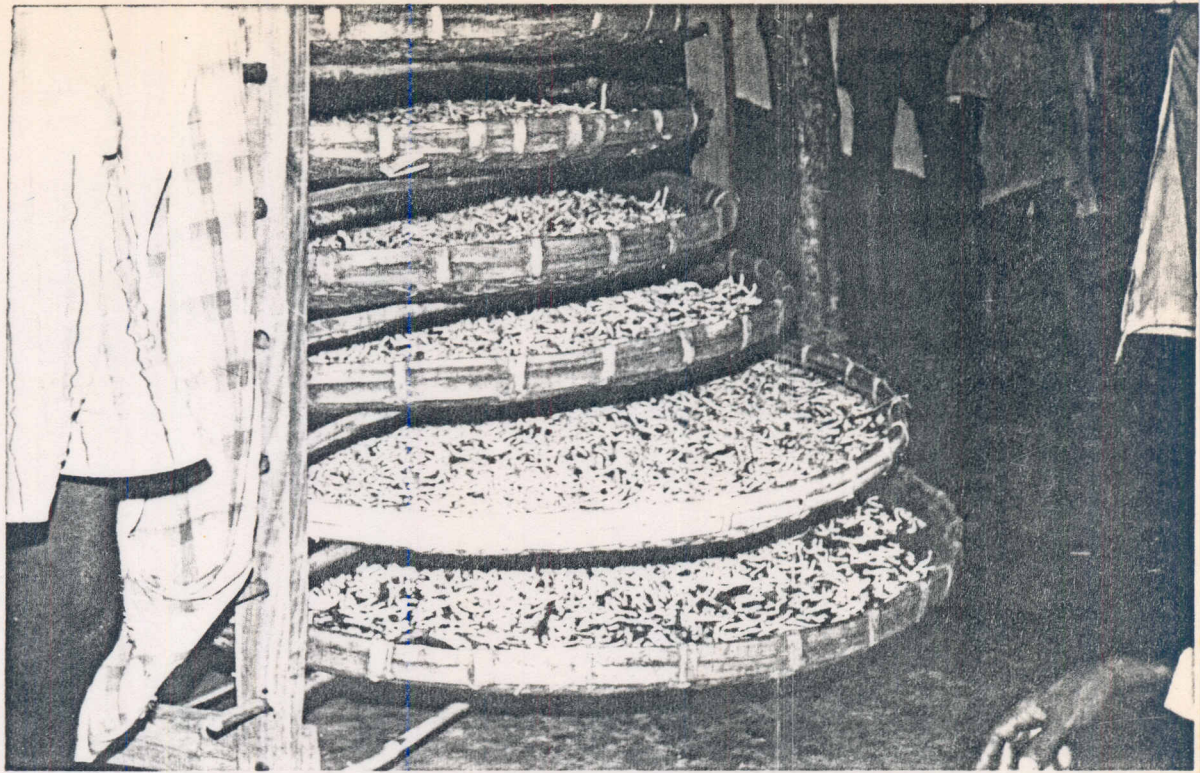
In spite of frequent failures of the crop, which entail considerable financial loss, many households continue to embark on sericulture, possible because the occasional successful crop provides a large income.



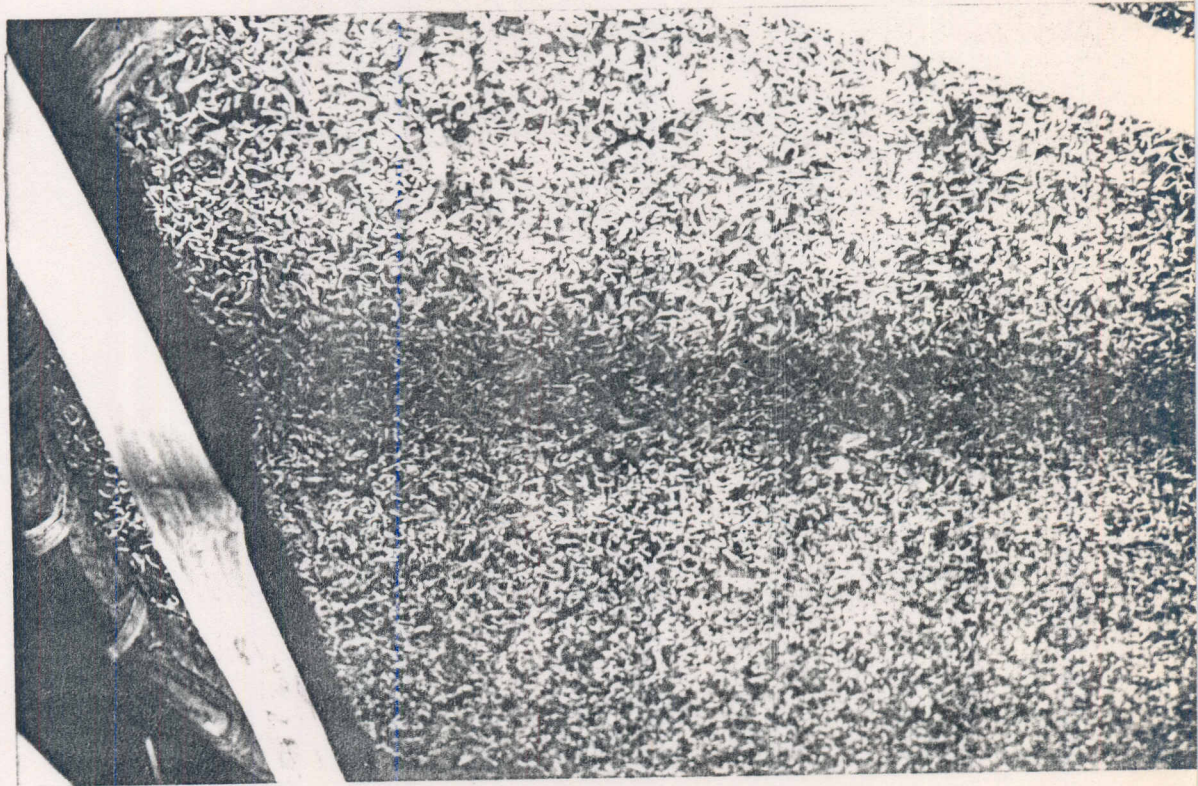




SERICULTURE



Sericulture trays in the home



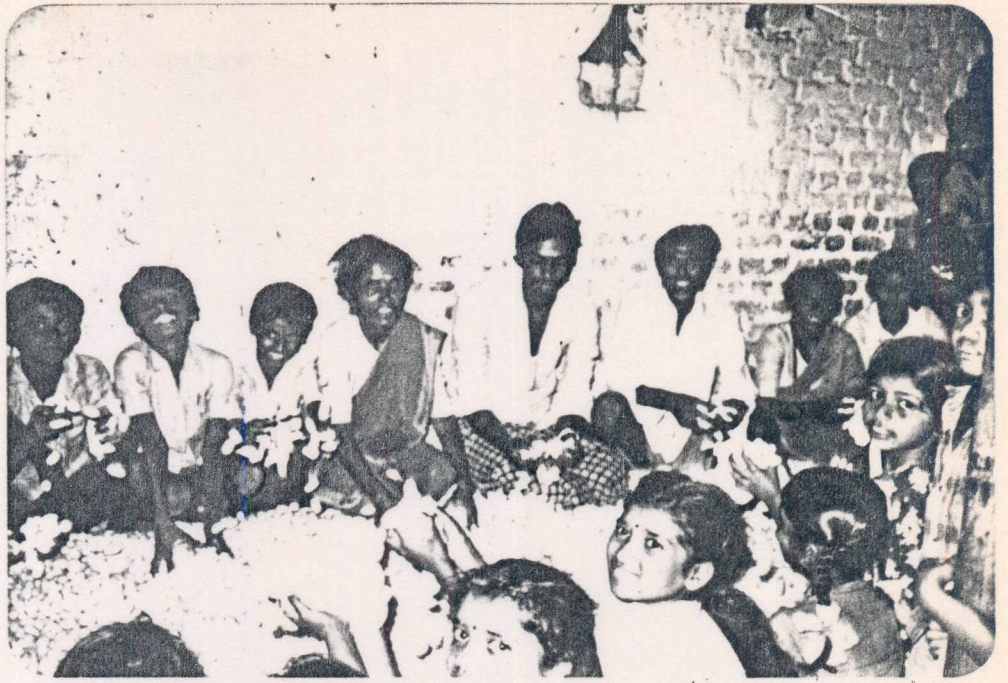
Growing Silk Worms







SERICULTURE



Family sorting cocoons









Mulberry Field



Feeding silk worms







**Chapter 5**  
**HEALTH RELATED BEHAVIOURS**

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## 5. HEALTH RELATED BEHAVIORS

Data that reflect either the health of children or determinants of health are obviously of especial interest to us, since the main objective of this study is to examine the linkages between the woman's work and the well-being of her child. These factors include the general surroundings and environment, the adequacy and availability of health services, the appropriate use of preventive and curative services, the nutritional resources available and the adequacy of child care, and will be reflected in the growth of the child, and to some extent in the prevalence of morbidity, both nutritional and of other types. Children's health status is likely to depend to some extent on access to health services. All villages in our sample are close to a primary health center. Hence, if there are any differences in health status between different subgroups in our sample, they are not likely to be confounded by differential proximity to health services.

In this chapter we will present the data that reflect the health status and health-related determinants of the index child and mother at various stages in their life history. They are presented in different sections, as below:

- 5.1 General environment and hygiene
- 5.2 Marital and reproductive history
- 5.3 Contraception
- 5.4 Breast feeding and weaning
- 5.5 Child care
- 5.6 Immunization
- 5.7 Dietary history and feeding behaviour
- 5.8 Child Growth and nutritional status
- 5.9 Child Morbidity
- 5.10 Women's health and nutritional status

The importance of each of these areas is self evident, but a more detailed discussion of their relevance to the question in hand precedes each section. The data are drawn from various portions of the different instruments, as specified under each section.

In some cases, especially for descriptive purposes, we have used data from the 301 households for which we have collected data in the earliest questionnaires, while at other times we have only analyzed the information for the 291 households who completed the study.

### 5.1. GENERAL ENVIRONMENT & HYGIENE

The general environment and hygiene in and around the home can have a considerable effect on the health of the child. Some examples are the handling of drinking water or careful hand-washing after defecation, both of which are clearly related to the incidence of diarrhoea.



The data for this section have been taken from sections A-4 and J of the data collections instruments.

Since the families in the study are from the poorest section of the population, it is not surprising that the general hygiene, health practices and available facilities are rather poor. Table 1 presents selected environmental and hygiene variables by work group and other sample characteristics. 10% report an unprotected source for their drinking water. 79% have no toilet facility, and only 6.3% use soap to wash their hands after defecation (92.4% use water alone, 1.3% ash or cow dung). Of the families who own cattle only 21.9% keep them in a separate area, 17.6% having cattle not only within the house but in the same area as human inhabitants. A quarter of the families cook in a corner of the same room they live in. The rest report a separate kitchen, but generally this only means that the cooking and living areas are separated by a waist-high wall. The cooking areas are almost uniformly poorly ventilated. Smokeless chulas seem almost non-existent, with only 11 families using them. The majority of women (57.8%) use no protection against mosquitoes, though some (16.3%) do report using mosquito nets.

Work status does not seem to affect these surroundings or types of behavior, except where noted - eg: mosquito net use, toilet facility within home. Caste does seem to play a role, as even within this underprivileged group, we find that SC/ST households generally seem to have the worst housing and amenities.

**Table 5.1 General Environment and Hygiene**

	% using only open well, pond/tnk	% Cattle kept separate of those who own cattle	% with no toilet	% using soap to wash hands	% use mosquito net
SE (N=13)	15.4	57.1	84.6	23.1%	23.1*
WL (N=137)	12.4	26.5	85.4	10.2%	9.5
UPFW/HW (N=141)	7.1	32.4	73.0	14.9%	22.7
SC/ST=117	9.4	29.0	82.9+	12.0	10.3
OTHERS=174	10.3	31.2	77.0	13.8	20.7
Schlg N=38	10.7	25.6**	73.7*	11.9	15.8
No School (N=253)	5.3	63.0	80.2	21.1	21.1
Total	10.0	30.4	79.4	13.1	16.3

\*  $p < .05$     \*\*  $p < .01$



## 5.2 MARITAL AND REPRODUCTIVE HISTORY

The growth and health of the fetus and the newborn infant are determined in utero, and are affected by the woman's pre-pregnancy height, weight and nutritional status as well as by the prenatal environment and the prenatal care the mother receives. Adequate care during pregnancy, delivery and in the post-natal period is acknowledged to affect the morbidity and mortality rates for infant and mother alike. This section covers the data from the A5 and B section.

This period of a woman's life is acknowledged as being very important in the environment of our study, and perhaps also in the women's self-perception. In fact, some women, in response to the question "Tell me about yourself" will start off "I was married when I was xx years old, and my first child was born xx years afterwards" as if her life had only begun at the time of her marriage.

### 5.2.1 Marital History

Despite the existence of laws regulating the minimum age at marriage about half the women were married before menarche, with a higher proportion of WL, SC/ST women and women without schooling reporting this practice. Obviously, these laws are not taken very seriously. The response of the father of a bride to a question about her age was "Your government says she must be 18, doesn't it? So - she must be 18!".

Others feel differently. Shivalingamma was married at 14, but she says she will get her daughters married only by 18 or 20 "If married young they get children when very young. This is not good", she feels.

Table 5.2 displays marital history information by work category, caste and education. A majority of the women (97%) began to cohabit with the husband ('Prastha') between the ages of 14 & 17, for a mean of 14.6 years. More Wage labourer (63.8% vs 50.0 UPFW), SC/ST (71.3% vs 48% other castes) and women without education (58.8% vs 48.7%) reported 'prastha' at the very young ages of 13 to 14 years.

Even if it is possible that the ages reported are erroneously low, it is clear that sexual activity begins early, with a resultant low maternal age at childbirth. Mean age at first delivery is 16.1 yrs. Overall, 47.5% of all births were to women under 18 years of age and 9.2% to girls less than 15. Caste does not appear to make a marked difference in the woman's age at delivery.



Table 5.2 Marital &amp; Reproductive History

	Married before Menarche (%)	Age at Prastha mean (sd)	Age at 1st Delivery mean (sd)
SE (N=13)	23.1 *	14.4 **	16.5 NS
WL (N=137)	56.2	14.4	16.0
UPFW/HW (N=141)	43.3	14.8	16.2
SC/ST (N=117)	56.4 *	14.2 **	15.8 +
OTHERS (N=174)	43.1	14.9	16.3
No School (N=253)	50.6 +	14.5 *	16.0 NS
Some School (N=38)	34.2	15.0	16.7
Total	48.5	14.6	16.1

sig: +  $p < .1$ ; \*  $p < .05$ ; \*\*  $p < .01$

### 5.2.2 Pregnancy History

Data were collected for all the woman's previous pregnancies, with additional details for the most recent one. The total number of pregnancies reported by the 301 women was 913. There were 864 live births (6 of which were reported as premature), 26 still births and 23 abortions. Table 5.3 displays summary information from the birth histories.

The mean number of pregnancies was only 3.0, but it must be remembered that these are mainly young women, still in the reproductive age group and not using contraception. The number was highest for SE & WL women, lowest for UPFW, HW. Also, the HW and UPFW are younger than the SE and WL mothers, which might mean that women only feel they can work outside when they and their children are older. SC/ST women and those with no schooling were also older and had a higher mean number of pregnancies.



Table 5.3 Pregnancy Histories

	Mean Age of @ Mother	Mean no. pregnan- cies	Mean no. living children	History of child death (%)
SE (N=13)	25.5**	3.6 *	3.5 **	7.7%
WL (N=137)	23.6	3.3	3.1	27.7%
UPFW/HW (N=141)	21.7	2.8	2.6	26.2%
SC/ST (N=117)	23.3	3.2 NS	2.9 NS	22.2%
OTHERS (N=174)	22.5	3.0 NS	2.8	28.7%
Schooling (N=38)	21.7	2.4 **	2.3 *	7.9% **
No School (N=253)	23.0	3.2	2.9	28.9%
Total	22.8	3.0	2.8	26.1%

sig: +  $p < .1$ ; \*  $p < .05$  ; \*\*  $p < .01$

@ Mean age of mother at time of interview

#### Traditional practices in pregnancy:

Our observation was that many women work until late in pregnancy, although ideally they stop work as early as possible, especially if it is their first pregnancy. This reduction in the work load seems to be considered a particularly important part of the antenatal practices. One of the women, complaining about harassment by her in-laws, said to us "Even though I was pregnant they made me do wage labour almost until the last day. I went to my mother's house on Friday, only got 2 days rest and delivered on Monday. That is how badly they treated me".

This practice is more rigorously observed in the first pregnancy, when 11% of the women report working in the 3rd trimester. For subsequent pregnancies about 30% reported that they worked in the 3rd trimester.

Many foods are considered undesirable parts of the diet during pregnancy. Women reported avoiding sweet potatoes (21%), bovine colostrum (20%), eggs (16%), sesame (14%), drumstick leaves (9%) and papaya (4%). A complete list of foods avoided during pregnancy is attached in **Appendix 5.1**. Food taboos may worsen women's already marginal nutritional status. For instance, the avoidance of papaya and drumstick leaves would decrease the intake of Vit.A and



calories, and avoiding eggs and fish diminishes protein intake.

During pregnancy, many women take a medicine called "Ulsichakke", made from the bark of *Thespesia populnea* (portia tree). This is supposed to prevent the newborn child from developing "Kembara" (described later) One Muslim woman reported also taking a green medicine made of "thagge soppu" which is only used during the first pregnancy and apparently only by Muslims.

#### Place of delivery:

In South India, women usually go to their natal homes for their delivery, especially for the first one. Of the 890 deliveries, 519 (58.9%) occurred at the woman's natal home. 86.2% of first deliveries were at the woman's natal home, but the probability of delivery at the natal home has an inverse relationship with parity. The rate is almost the same for all work categories and castes for the first delivery, but fewer SC and WL have their subsequent deliveries at the natal home. Most women stayed at the natal home for two months before delivery (some for as long as 6 months prior to giving birth) and for 4-5 months after.

**Table 5.4 Delivery at natal home by parity, Ann.Wrk.cat. & Caste**

	I Delivery		II Delivery		III Delivery or higher	
	No.	%	No.	%	No.	%
SE	13	100.0	12	58.3	22	36.4
WL	141	84.4	122	66.4	200	26.0
UPFW	140	82.1	112	73.2	138	34.8
HW	7	85.7	3	-	3	-
SC/ST	122	82.0	106	63.2	164	26.2
Others	179	85.2	143	72.0	199	32.7
Total	301	84.1	249	68.3	363	29.8

#### Infant Mortality:

It is well known that low maternal age and poor socio economic status are associated with increased infant mortality and morbidity.

Eighty of the 856 liveborn infants died subsequently, 75 of these dying within the first year of life. The cause of death and age at death are shown below. The cause of death is that reported by the mother, and may not be wholly accurate.



**Table 5.5 Reported causes of infant death, 79 cases**

Cause of death	<1 mo.	1-6 mo.	6-12 mo	>1 yr.
Prematurity	3	3	-	-
Diarrhoea	-	4	3	1
Gastro-intestinal	3	1	-	1
Tetanus	1	1	-	-
Measles	-	1	1	1
Fever	-	3	-	-
Congenital malformatn.	-	1	-	-
'Black magic done'	-	1	-	1
Other	10	23	3	-
Cause unknown	8	2	3	-
Total	25	40	10	4

( The 26 "other" include symptoms like convulsions - 6, feeding problems - 8, and swelling of stomach -2 along with other causes of death).

This incidence of death (87.6/ 1000) seems to be high when compared to the IMR for Karnataka, which was 71/1000 in 1991, or even with rural Karnataka (1986 - 82/1000),<sup>1</sup> However, these data are for births that span a period of several years; also since our study population belongs to a poor rural group, a higher death rate would be an expected finding.

### **5.2.3 Antenatal Care during Last Pregnancy**

There is reason to believe that rural women look upon pregnancy and child birth as a normal physiological process which does not necessitate any special antenatal care or delivery in an institution. However, it is also true that it is seen as a distinct and vulnerable phase of the woman's life and as such there are strongly held beliefs regarding the need for food restrictions and for changes in behaviour and activity at this time.

The data regarding the most recent pregnancy are reported separately, in this section. It was felt that this information,

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<sup>1</sup> Children and Women in Karnataka, A situation analysis, 1990 pp 20-21. A study conducted for Govt. of Karnataka by ISEC. Bangalore



being recent, would be the most reliable, and hence we collected it in considerable detail.

Of the 301 most recent pregnancies, 291 resulted in the birth of the index child while 10 were pregnancies subsequent to the birth of the index child.

120 women (39.5%) reported that their pregnancies were not checked by anyone. In explanation, the women mentioned that they felt no particular need as they were keeping well, that they did not seek care for lack of time or because of a lack of empathy from health care personnel. Table 5.6 presents information about prenatal care during the most recent pregnancy.

**Table 5.6 Antenatal Care by Workgroup, Caste & Education**

	% with antenatal care	avg No of visits	% with 1st visit in 3rd trim	% with MD as provider
SE (N=13)	61.5 NS	1.5 NS	7.7 *	30.8 NS
WL (N=137)	56.2	1.5	8.8	16.1
UPFW/HW (N=141)	64.5	1.7	19.1	35.5
SC/ST (N=117)	65.0 NS	1.8 NS	12.0 NS	15.4 **
OTHER (N=174)	57.5	1.5	14.9	33.3
Schooling (N=38)	76.3 *	2.0 +	18.4 NS	42.1 *
No School (N=253)	58.1	1.5	13.0	23.7
Total	60.5	1.6	13.7	26.1

+ - <.1, \* - <.05 \*\* - <.01

A higher proportion of UPFW seemed to receive antenatal care than WL. Analysis by caste groups shows that 65.0% of SC/ST women report having some antenatal contact as compared to 57.5% of women of other castes. This is a rather unexpected finding as the usual experience is that these women tend to have worse care. Antenatal care seemed to be significantly related to education of the mother, in so far as 58.1% of women with no schooling reported receiving antenatal care, as compared to 76.3% of women who had attended primary or secondary school.



The actual number of antenatal visits seems unrelated to work category or caste, but women with some schooling have a higher average number of visits.

In addition to the number of antenatal visits, the timing of first contact is also extremely important. Ideally, the woman should be seen at least once in the first trimester, but in actual fact this rarely happens. Thirty percent of women in the WL group had their first antenatal checkup in the third trimester, while only 18.4% of UPFW were first seen as late as the third trimester. Similarly, analysis by women's caste suggests that even though the overall percentage of SC women receiving antenatal care is higher than that of other castes, less SC/ST women start antenatal care early. Only 19% of them are seen in the first trimester, vs 27.5% of other women. (Table 5.2.1, Appendix 5.2). This seems an unusually high number, and may be due to errors in recall. Six women were first seen only in the last month of their pregnancy.

The purpose of the checkup is described as 'routine' by 79% of women. 38 (21%) were seen for 'problems', which, on exploration turn out to be minor symptoms such as dizziness, nausea, tiredness. More WL give 'routine' as reason for seeking antenatal care, as do more SC/ST women (83.5 vs 75.5% of others). Thus it would appear that women of the SC/ST group are not disadvantaged as far as access to antenatal care. They have a higher incidence of antenatal checkup and seek antenatal care more as a routine rather than only when they feel they have a problem. However they start antenatal care later than women of other castes.

All pregnant women in the population are supposed to be identified by the Auxiliary Nurse Midwife (ANM) and referred to the Primary Health Centre (PHC) or government hospital if necessary. However, some women even in this population group seem to prefer to receive their care from private sources.

Overall, 10.8% of women we interviewed received their antenatal care from a private doctor, 44.3% from PHC or Govt. hospital doctor, and 44.9% from the LHV/ANM. More non-SC than SC women are seen by doctors rather than by other medical personnel, and the same is true of UPFW as compared to WL.

#### Quality of antenatal care

The purpose of antenatal care is the early detection and correction of potential problems. Ideally all women should receive a registration card, have their weights checked at regular intervals, have their blood and urine checked, and receive iron and folic acid tablets and two injections of tetanus toxoid. Unfortunately, our findings are that even those women who did receive antenatal care do not necessarily receive all these services, as shown in Table 5.7



**Table 5.7 Antenatal Services Received**  
Type of service      % Received

Registration card	4.4
Physical examination	60.8
Weight recorded	5.0
Urine test	6.6
Iron & Folic acid	77.3
Tetanus toxoid (2 or 3)	68.0

No striking difference are observed by work category or caste; thus, once a woman has made contact with the health care system, there appears to be little difference in the quality of care she receives.

Since it is of interest to know whether the adequacy of antenatal care services is affected by the source of care, we have examined this possibility. Table 5.8 presents services by provider type.

**Table 5.8 Services by Type of Provider**

Type of Provider	Regist. Card	Phys. Exam	Weight Record	Urine Test	IFT given
Pvt. Doctor N=19	1 (5.3)	14 (73.7)	2 (10.5)	1 (5.3)	11 (57.9)
PHC/Hosp. N=82	4 (5.1)	43 (54.4)	6 (7.3)	6 (7.3)	61 (73.4)
ANM/LHV N=88	3 (3.4)	53 (60.2)	1 (1.1)	5 (5.7)	68 (77.3)

Regardless of the provider, very few women are issued registration cards. Only about half of those receiving care at the PHC or government hospital report having a physical examination, and few have their weight recorded or urine tested, irrespective of the type of provider. The women seeing a private doctor were the least likely to receive IFT! It is likely that they were given different (and possibly more expensive?) mineral and vitamin supplements which were not reported.

Even among the 140 women who received iron and folic acid tablets compliance was rather poor: 55.7% consumed <30 tablets, 25.0% 31-60 tablets and only 18.5% >60 tablets. Table 5.2.2 in Appendix 5.2.

#### **Tetanus Toxoid:**

The frequency of administration of tetanus toxoid to the 181 women who had an antenatal contact and the number of doses they received is shown in Table 5.9. 41.5% did not receive TT, and 10.6%



received only 1 dose. Since data were being collected retrospectively, these figures probably are not an accurate reflection of TT coverage at the present time. This has markedly improved following the advent of UIP (which was introduced on a pilot basis in Karnataka in 1985-86), as is documented by the fact that the percentage of women receiving TT increased from 44.6% of mothers of older children to 70.3% of mothers of children <2 years of age.

**Table 5.9 Number & % of women receiving TT By Age of IC**

Age of IC	No TT	1 TT	2+3 TT	Total
< 2 Yrs.	29.6%	9.3%	61.0%	162
> 2 Yrs.	55.4%	12.2%	32.4%	139
Total	41.5%	10.6%	47.8%	301

An additional 29 women had received TT although they had not reported an antenatal contact. It is possible that these women were contacted for TT administration during a Universal Immunization Programme (UIP) session, and received no other antenatal care.

#### Supplementary food from ICDS

Only 76 (25%) of women collected supplementary food from the Anganwadi during the antenatal period. Of the 225 women who did not, 139 (61.8%) delivered at their own (husband's) home or at a hospital or PHC near it, and hence would have been eligible to receive the food supplement. 86 (38.2%) delivered at their natal home and therefore would not have been eligible for food from the Anganwadi in that village. However, most of these women moved to the parental home only late in pregnancy and thus could have availed of the food supplement until they moved to the parental village. A higher percentage of SC women collect supplementary food from the Anganwadi. We might hypothesize that in this group there is less social stigma attached to accepting this food, or that these women are more in need than the others. However, the overall utilization of this supplement is dismayingly low, and the reasons for this need to be explored.

#### Expenditures on Antenatal Care

Total expenses per check up were as follows (combining transport, medication, tests and other expenses): 42.1% of visits are free, 32.5% pay less than 50 Rupees and 25% pay somewhere between 50 and 500 Rupees. When costs are examined according to the type of provider, as in Table 5.10, a distinct hierarchy emerges, with private medical care predictably costing the most.



**Table 5.10 Type of Provider By Cost of Antenatal Care**

Provider	Free	1-10	11-50	51-100	101-200	201-500
Pri.DocN=54	-	24.1%	53.7%	18.5%	1.9%	1.9%
PHC/HosN=198	8.6%	35.9%	38.4%	15.7%	1.0%	0.5%
LHV/ANMN=225	80.9%	7.6%	10.2%	1.3%	-	-
TotalN=477	42.1%	20.8%	11.7%	15.1%	9.2%	0.6%

It should be noted that these costs include those of transport and medication purchased. This may explain the cost of care at the PHC or government hospital, which are otherwise supposed to be free. Table 5.11 breaks down the costs by services and provider. Expenditure on medicines is the largest component of the cost of services, followed by transportation costs. It would be interesting to know the types of medicines being prescribed, but unfortunately these data were not obtained.

**Table 5.11 Mean Cost Of Services per Visit by type of Provider**

Type of Provider	Fees	Medicine	Tests	Transport	Total
Pvt.Doctor	5.4	24.8	0.9	11	42.2
PHC/Hosp.	0.9	18.4	-	6.4	25.5
ANM/LHV	0.1	2.4	0.04	1.4	4.0
Range	0-60	0-200	0-20	0-200	0-400

A few women seemed to have incurred unusually high expenses for some of these services - for instance, one woman reported paying Rs.200 for transport, and 6 women reported paying Rs.100-200 for medicines.

### **Conclusions:**

Even though 60% of women had had some antenatal care, it lacked the essentials of antenatal care i.e.

- General examination of the women especially to assess anaemia.
- Abdominal palpation to assess fundal height and abdominal girth to assess the growth of foetus.
- Blood pressure and Hb estimation to evaluate toxemia and anaemia.



The distribution of iron/folic acid tablets was erratic, either because of short supply or because of infrequent contact with the pregnant woman. Whether the women consumed the tablets or not was also not known.

The PHC was ill-equipped to respond to any referral that might have been made and so the women either went to the taluq hospital at Kanakapura or to private practitioners or hospitals.

The only service that was carried out fairly well was immunization because it was a priority programme of Government of India and specific strategies and job responsibilities had been laid out. There was sufficient supply of vaccines and equipment.

Even when a woman has received some antenatal care, however inadequate, she is delivered at home by an untrained person or a family member. We have had a TBA training programme for years and yet trained TBAs have not been able to replace the untrained persons, and one has to look for reasons why. Besides the training of TBAs only pertains to delivery and spills over a bit into the postnatal period. By and large the TBAs are not concerned with the antenatal period at all, hence no risk factors can be identified.

#### 5.2.4 Delivery and Outcome of Last Pregnancy

The adequacy of care at delivery is the focus of great concern in health care circles. A large proportion of infant morbidity and mortality can be ascribed to problems occurring during or soon after delivery, many of which could be prevented by better care at this critical time.

299 children were live born, but 3 died subsequently. One infant died at 20 days because of "difficulty urinating", one at 6 months with fever, convulsions and rash which was considered measles and one at 4 months of unknown causes. Two pregnancies resulted in still births.



It is generally believed that delivery at an adequately equipped institution is preferable to a home delivery, although this is not universally accepted. Table 5.12 gives the place of birth for the 301 most recent deliveries.

**Table 5.12 Place of Delivery By Work category & Caste of IM**

	PHC or Subcntr	Govt/ESI Hospital	Prvt Clinic	Marital Home	Natal Home
SE=13	-	15.4%	-	46.2%	38.5%
WL=141	1.4%	8.5%	0.7%	63.8%	25.5%
UFW+HW=147	1.4%	6.4%	1.4%	60.7%	30.0%
SC/ST=122	-	7.4%	-	61.5%	31.1%
Others=179	2.2%	8.4%	1.7%	62.0%	25.7%
No Schl=262	1.2%	7.9%	0.4%	64.8%	25.7%
Some Schl=39	2.6%	10.5%	5.3%	39.5%	42.1%
Total=301	1.3%	8.0%	0.1%	61.8%	27.9%

The vast majority of deliveries (89.7%) occurred at home. One hundred and six occurred at the woman's natal home or at a facility near it. We see very little effect of work or caste, but it appears that more women who have had some schooling deliver in private clinics and at their natal homes.

The competence of the individual assisting at delivery is a critical factor that determines the outcome for both mother and infant. These can be traditional birth attendants, lay persons or trained medical practitioners. For the past several years, there has been a training scheme for TBAs, meant to upgrade and modernize their practices. Table 5.13 displays the findings regarding the person assisting at delivery.



**Table 5.13 Person who assisted delivery By Annual work category and caste of Index Mother**

Work Cat. of IM	Percentage of women delivered by						
	Pvt. Dr.	Govt. Doctr	ANM/LH V Nurse	Trnd. Dai	Untrn d Dai	Relat v/Nei ghbr	Tota l
SE	7.7	7.7	7.7	-	-	76.9	13
WL	1.4	7.8	17.0	2.1	14.2	57.4	141
UPFW	1.4	5.7	21.4	5.7	15.0	50.7	140
HW	-	14.3	14.3	-	14.3	57.1	7
SC/ST	0.8	5.7	13.1	3.3	12.3	64.7	122
Other	2.2	7.8	22.3	3.9	15.1	48.6	179
Total	1.7	7.0	18.6	3.7	14.0	55.2	301

Our findings were that most of the deliveries were assisted by an untrained dai, relative or neighbour. Surprisingly few were attended by a trained dai. Trained personnel conducted 22.9% of SC/ST deliveries and 36.3% of others. When we examine only the home deliveries, shown in Table 5.14, we see that trained personnel conduct only 16% of home deliveries of SC/ST women compared to 27.9% of home deliveries of women of other castes.

**Table 5.14 Person who assisted home delivery By Caste of IM**

Caste	ANM/LHV	Trained Dai	Untraind Dai	Relatives
SC/ST N=75	(12.0%)	(4.0%)	(13.3%)	(70.6%)
Others N=111	(24.3%)	(3.6%)	(18.9%)	(53.1%)
Total N=186	(19.4%)	(3.8%)	(16.7%)	(60.2%)

No medications are given during labour, except sometimes "jeerakashaya" (decoction of cumin seeds) to give strength in the



labour. When delivered by family members or untrained dais, the women are often delivered in the squatting position. However, the trained dais and ANMs routinely have the women deliver while lying supine - a practice which is now thought to be undesirable as it can cause fetal hypoxia. This is a case where unfortunately a good tradition has been replaced by an undesirable "modern" practice. We have also been told of one or two instances where the ANM has administered an injection to hasten labour even though the delivery was being conducted at home. This is presumably an oxytocic, and administering this without adequate facilities for monitoring can be a hazardous procedure.

### Post-natal period

This is a part of the woman's life which is subject to a great deal of concern and many health beliefs and practices. We have described it in some detail as we believe some of the practices we have observed are unusual and warrant further study.

In Kannada, a woman in the post partum period is known as a bananthi, and the process is known as bananthana. This concept recognises the immediate need for women to recover from the trauma of childbirth, acknowledges their vulnerable state, and emphasizes the importance, in the long term, of building strength for leading an active life subsequently. The bananthi period is highly regulated, there are many rituals and customs aimed at promoting health, preventing illness, and treating ailments.

Post-partum customs and practices, the underlying beliefs, values and attitudes of women are reflected in:

a) Diet - A strict diet schedule, with many pre- and proscriptions, is followed. Especially during the first few days after childbirth, fluid intake is severely restricted, and the diet essentially consists of a gruel or "ganji". (See Appendix 5.4). The concept of "hot" and "cold" foods seems to dictate food preferences and avoidances. Hot foods are a must while cold foods are shunned. It is believed that the mother's milk is affected by the food she eats. So foods that are supposed to have a bad effect on breast milk, thus causing illness in the baby are avoided. In addition to "cold" foods, cold liquids, particularly cold water, (even physical contact with it) are forbidden. In fact, often the fluid intake is restricted to allow the "bad/dirty" liquids accumulated during pregnancy and child birth to dry out.

b) Rest, work, and movement: Ideally, bananthis are supposed to rest completely. The bananthi does not go out of the house till 40 days after childbirth and she is not supposed to return to work for a period of at least three months. Her movements outside the house are restricted. These restrictions refer to ideal situations but poor bananthis and those without social support are forced to work much earlier. Since these practices may be assumed to be most stringently observed for the first pregnancy, we have looked



at these data for SC/ST versus other women, and as shown in the figure below no women resumed work earlier than 60 days after giving birth. Following this period, however, SC/ST women seem to return to work significantly earlier than others.

c) The bananthi is vulnerable to catching cold during this period; hence she is dressed warmly, avoids draughts and contact with cold water. If she fails to do so she may contract sanni, a culture specific illness which seems to have the features of "hysteria," convulsion and post partum neurosis/psychosis.

d) A mother is also vulnerable to supernatural forces which may cause beethi shanke, literally "fear and suspicion/doubt". This has features common with sanni. These syndromes are widely recognised, but women seldom seek help from professional health workers as these are not defined as illnesses the doctor can cure. Indeed, it is felt that in some cases it can be dangerous to have a person with these problems treated by modern methods, as treatment or injections makes the spirits angry and patient becomes worse. Instead, rituals are conducted to protect her; activities and exposures which put her at risk are prohibited.

e) Ideally, sexual intercourse during bananthana, (and preferably during the entire period of lactation) is forbidden. How strictly this is adhered to in third and higher pregnancies, when the delivery often occurs in the husband's house, is not known.

No women resumed work earlier than 60 days after giving birth. Following this period however, SC/ST women seem to return to work significantly earlier than others. Since these practices may be assumed to be most stringently observed for the first pregnancy, we have looked at the data for first pregnancies for SC/ST versus other women.

### 5.3. KNOWLEDGE AND USE OF CONTRACEPTIVES

The appropriate spacing of pregnancies and limiting the number of children are very important determinants both of women's health as well as that of their children. We have collected information regarding the women's attitudes and information regarding contraception in Questionnaire F, and the data are discussed below.

Women were questioned regarding their knowledge and use of contraceptive methods. Table 5.14 describes knowledge and use of contraceptives by work group and other characteristics. While all but 2 knew about tubectomy, only about 64% knew of spacing methods. A mere 18.0% knew about condoms, 58.4% knew about IUDs, and a little less than half about oral contraceptives and about vasectomy. Knowledge of spacing methods was lower among wage labourers, SC/ST women and women with no schooling. This lack of information regarding most methods of contraception is



surprising, given the emphasis on family planning in government health schemes.

**Table 5.15 Knowledge & Use of Contraceptives by Work category, Caste and Education**

	Knowledge of spacing methods	Knowledge of tubectomies	Knowledge of vasectomies	With tubectomy
SE (N=13)	8 (61.5)	13 (100)	8 (61.5)	8 (61.5)
WL (N=137)	86 (62.8)	136 (99.3)	56 (40.9)	78 (56.9)
UPFW/HW (N=141)	93 (66.0)	140 (99.3)	69 (48.9)	61 (43.3)
SC/ST (N=117)	66 (56.4)	116 (99.2)	55 (47.0)	54 (46.2)
OTHERS (N=174)	121 (69.5)	173 (99.4)	78 (44.8)	93 (53.5)
Schooling (N=38)	28 (73.7)	37 (97.4)	22 (57.9)	16 (42.1)
No School (N=253)	159 (62.9)	252 (99.6)	11 (43.9)	131 (51.8)
Total 291	187 (64.3)	289 (99.3)	33 (11.3)	147 (50.5)

Use of temporary methods was uniformly low. This is true for both current and past use among these women. Only 3 women reported currently using an IUD, 2 the pill and the husband of one used a condom. For use in the past, these numbers are 3, 2 and 1.

Only one out of the 301 husbands had undergone a vasectomy, whereas 147 (50.5%) of the women had had a tubectomy performed.

The women who had undergone tubectomy had a mean age of 24.8 years and had an average of 3.2 living children as compared to 20.8 years and 1.9 living children for the women without tubectomy. Obviously, it is the older women and those with more children who are willing to undergo tubectomy.

59.1% of women stated that they wanted no more children, or expressed no opinion (1 case). 37.9% desired one additional child, and 3% desired 2 or 3 more children. Predictably, this seemed to depend on the number of living children, with only 4 of 55 women with more than three living children stating they wanted



another child. All of these were women with no surviving sons. However, the use of contraception seemed inconsistent with the stated desire for no more children as is seen in table 5.1x Eight women with one living child stated that they wanted no more children, but 5 used no contraception, while 58% of those with two living children who wanted no more children used no contraception.

**Table 5.16 Contraceptive use among women not desiring more children by no. of living children**

No. of living children	No contra-ception used	Tubectomy performed	Other type of contraception	Total
1	62.5	37.5	-	8
2	23.9	76.1	-	46
3	11.0	83.6	5.5	73
4	12.9	83.9	3.2	31
5+	15.0	80.0	5.0	20
Total	17.4	79.2	3.4	178

There is a clear relationship between tubectomy and the number of living children, as shown in Table 5.15.

**Table 5.17 Prevalence of Tubectomy By No. of living children**

No. of living children	No. of women	Women with tubectomy	
		No.	%
One	67	3	4.5%
Two	91	38	41.8%
Three	88	66	75.0%
Four	33	27	81.8%
>=5	22	16	72.7%
Total	301	150	49.8%

Most women had the operation performed after 3 living children. However, we were surprised to find that 3 women had opted for tubectomy after only 1 child - of these, one woman was the second wife, and the husband has 2 previous children by the first wife (who also lives with them). Another woman's husband has several children by a previous marriage. Two of these only children were female and one male. Thirty-eight women had a tubectomy after 2



living children. Of the 38, 20 had both sons, 15 one son and one daughter and 3 were sterilized after having 2 daughters. Six women with five or more living children had not opted for tubectomy. Of these six, two women had only daughters, while the remaining four had between two and four surviving sons as well as two or three daughters. Obviously the survival of a male child is a very important factor determining the choice of tubectomy.

The case studies reveal a great range of attitudes and constraints in relationship to the use of contraception.

Shivalingamma was happy with only 2 children, but her husband did not allow her to get operated. After the 3rd child she had decided to get operated and had even told the ANM, but both her brother in law and husband refused to allow it. Finally after her 4th child she underwent sterilisation.

Doddahennu went ahead with a tubectomy without her husband's permission. She says her husband is still displeased about it. He feels people will mock at them for having no sons. She seems unconcerned and says 'If I listen to my husband, finished. I should have gone for operation after 2 children itself.'

Sidamma had decided to get sterilized after 2 children, but her mother-in-law said one son was not enough and prevented her having the operation. 'When I was just about to go, my mother-in-law and neighbours got together and said 'What will you do if something happens to these children? (ie if they die?)'

Another woman tells us that her husband wants another child - whichever sex, doesn't matter. 'But I have decided not to have any more. So for 2 months, without his knowing I have been taking pills for not to have children. However, once he saw the pills and asked me "What is this, Siddi?" I bluffed him that it was some medicine or other. The pills ran out yesterday - Jayamma (ANM) was supposed to come today and give me more - I don't know why she hasn't come.'

Yet another tells us that she would like to use a temporary method like IUD, oral pills, 'but no one tells about how to use those methods. Even the health visitor won't discuss these things in detail'.

We believe these data reflect the current major thrust for terminal methods of contraception and an emphasis on women as the target, and further substantiate the observation that most tubectomies are performed after the woman has 3 or more living children. The use of spacing methods is negligible because of a lack of emphasis by health personnel, lack of availability of temporary methods and poor after-care services.



#### 5.4. BREAST FEEDING AND WEANING PRACTICES

(Data are from the C Section)

Malnutrition and diarrhoea are major contributors to early childhood mortality in developing countries. Breast feeding and the appropriate introduction of supplementary feeding are critical factors in minimizing these problems and in determining the health and even the very survival of the infant. We collected detailed information on breastfeeding and weaning practices for the last child born.

##### 5.4.1. Breast Feeding Practices

Women breast fed their babies spontaneously and naturally, without any special preparation for breast feeding. Young girls grow up seeing older women breast feeding their babies. There is strong family support, and women consider it a natural and normal method of feeding. Only two of the 301 women did not breast feed at all - one because she was ill and the other because she felt she had no breast milk. Very few women who breast fed had problems - one woman reported a cracked nipple, 3 had engorged breasts, 2 had abscess formation and 3 had other problems (not specified). The grand mother of one of our subjects said that she had not heard of women having problems with breast feeding in all her years. Even though she could afford only ragi gruel, she had plenty of milk and can keep the child solely on breast milk for one full year. Her grand daughter, who had just delivered, commented that lack of milk, cracked nipples etc are problems faced only by rich people and not the poor.

We believe that many conditions with which western authors are obsessed, such as painful and cracked nipples, flat or retracted nipples, engorgement, etc. are extremely rare in rural women as is failure to successfully breast-feed. Therefore we feel that undue attention to these problems by health workers may actually be counter-productive. The same applied to breast milk failure - only 5 women reported 'no breast milk' as a reason for stopping breast feeding before the child was 8 months old.

Our findings regarding beliefs and practices concerned with regarding breast feeding are presented in the following tables.

Beliefs regarding withholding colostrum are strong - only 12 women breast fed the baby within 12 hours, and very few even within 24 hrs. More than half the women initiated breast feeding on day 3, and 16 report starting breast feeding only 96 hours or more after birth. These data are seen in Table 5.18 and Table 5.2.3 in Appendix 5.2.



Table 5.18

## Breast-feeding practices

	% women breast feeding < 24 hrs	avg # of hrs before initiation of breast feeding	avg. age discontinued for women who had stopped breast feeding (N= 121)
SE (N=13)	0	63	16
WL (N=141)	7.3*	54	22*
UPFW/HW (N=147)	3.5	56	17
SC/ST (N=122)	5.1	54	23*
OTHERS (N=179)	5.2	57	17
Schooling (N=39)	2.6	54	14
No School (N=262)	5.5*	56	20*

Women in all work categories seem to follow the same pattern of initiation of breast feeding. Wage labourers seem to have better breast feeding practices in that they commence feeding earlier.

Different reasons are given for withholding breast feeding. Almost half the women feel that early milk is bad for the baby, others believe that no breast milk is produced so early (27.8%) or practice this because of tradition or due to an elder's advice (20.3%). The belief is that feeding colostrum causes the baby's stomach to swell, or results in diarrhoea and that this is milk that has been in the breast for some time and is hence stale. These beliefs seem to be held by women in all work categories and castes. However, some women differ in this.

Shivarudramma said that colostrum is very good for children and that she has given it to her children. She believes that initial milk is very good. Her mother advised her to give to her children. It is important to stress that in spite of this late initiation of breast-feeding, most women breast feed successfully and naturally.

Prelacteal feeds are almost universally used, and many different substances were reported as being given. About half reported using two different types of feeds. Castor oil is used as the pre-lacteal feed by 143 women or about 1/2 of the women in all work groups. 84 women used only castor oil, another 49 gave



breast milk from another woman as well as castor oil, and yet another 11 babies had cow's milk, sugar water or ghee and honey as well as castor oil. It is felt that castor oil helps to clear out the "dirt that has accumulated in the baby's stomach" (meconium). Although the women report giving upto 15 ml of castor oil in 2 days, they claim that the infants never have diarrhoea, and in fact no diarrhoea was reported by mothers of the newborn babies who we saw during the course of the study. The amount of castor oil may well be an overestimate, as this is generally administered by dipping a finger in the oil and then feeding it to the baby. The belief in the value of castor oil is deeply engrained and not easily changed by advice from health personnel. One woman reported that though they agreed to use sugar water when advised to do so by the ANM, (which also was incorrect advice) "after she went away, we gave castor oil as always. Why should we upset her, the poor nurse?" Breast milk from another lactating woman is often used for prelacteal feeds, though actual breast feeding by a wet nurse is rarely reported. This milk is always that of a woman of the same caste.

A feeding bottle was used for prelacteal feeds only by 2 women. About half of the babies were fed by spoon or traditional feeding beaker ("olale") and a little more than half the women report giving the prelacteal feed by dipping a finger in the feed and putting it in the baby's mouth. 96% of babies receiving castor oil were fed this way.

#### Duration and nature of breast feeding:

In most cases breast feeding was continued for several months, as is the common practice in this area. 180 women were still breast feeding at the time of the first post-census interview. The ages of their children at the time ranged from 01 to 52 months. Of the 121 women who had stopped breast feeding, about 65% stopped after 12 months of age. 44% of UPFW report stopping breastfeeding before 12 months of age as compared to 29.3% of WL. Only 6 women reported stopping before 8 months, 4 because they felt they had no breast milk, 1 because she had to return to sericulture work which is 'heating and spoils breast milk', and one for unspecified reasons.

There appears to be a difference in breast feeding practices by work categories. Wage labourers breast-fed their children for a mean duration of 21 months, while the mean age at which UPFW+HW reported stopping breastfeeding was 17 months. SC women also stop later, but, disappointingly, women with some schooling breast feed for a shorter duration than those with none. None of the babies were exclusively breast fed, if we adhere strictly to the definition of 'exclusive' (Ref), since all were given various prelacteal feeds. However, as Table 5.17 shows, even if we ignored the prelacteal feed, exclusive breast feeding is not strictly followed. Breastfeeding was exclusive in 3 of 6 infants



who were under 4 months of age and in 7 of 11 who were aged 4-6 months at the time of the questionnaire. Current recommendations are that infants should be exclusively breastfed for the first four months of life, so this finding indicates an undesirable trend in our study population.

**Table 5.19 Breast Feeding Status of Last Child By Age**

Age of Child	Exclusively breast fed	Partially breast fed	Currently not Breast fed	Total
0-4 months	50.0%	50.0%	-	6
4+-6 months	63.6%	36.4%	-	11
6+-9 months	6.7%	90.0%	3.3%	30
9+-12 months	10.3%	89.7%	-	29
12+-24 months	71.0%	29.0%	-	93
24+-36 months	-	39.7%	60.3%	78
36+-48 months	-	14.9%	85.1%	47
48+-60 months	-	14.9%	85.7%	7
Total	5.0%	54.8%	40.2%	301

Most women reported giving the infant some medicine to 'improve digestion' after the first week or 10 days of life. Some give a traditional combination of spices called 'soothkara', which contains black pepper, cardamom, turmeric and "bajje" (Acorus calamus). Many feel that preparing this mixture, which needs to be freshly ground each time it is administered, is too much trouble, and instead use gripe water, which is widely advertised. They use about a bottle during the first month, and upto three or four bottles per month by the time the child is 5 or 6 months old. This can cost as much as Rs. 30-40, is an unnecessary medication, and may also be undesirable as some preparations of gripe water even contain alcohol and it could also introduce infection.

The case studies generally support our finding of almost universal acceptance of breast feeding. 'Tinned milk is not good. Only breast-fed children will be healthy', says Chikkamma. She believes that after about one or one and a half years the milk starts getting sour and when children drink that they get a bad temper. So she stopped feeding her children after 1.5 years. After her last delivery, she feels that because of the family planning operation she did not have much milk. She says that her brother has such a bad temper because he drank breast milk upto 5 years.



Puttalingamma advises that girls should be breast fed for upto one year only. If continued they become mentally unsound or 'cracks', but boys should be breast fed for two years.

Shivalingamma said that she had plenty of breast milk and she used to feed her children upto 3 years. She did make any difference in breast feeding her male and female children. Her opinion is that if women have milk they will feed upto 3 years otherwise they will stop feeding. Shivalingamma used to extract about 1/4 ltr. of breast milk everyday and pour it out after feeding her eldest daughter. She also fed the neighbours child for a month when her eldest daughter was 3 months old. Even with the last child she fed another child for 20 days.

When asked who taught her to breast feed, she responds "Should anybody teach you to put the baby on the lap and feed? I had no problem while breast feeding".

Occasionally we encounter the use of artificial feedees. Thayamma was able to breast feed her older son only for a year as she was unwell and having repeated convulsions. She attended a medical camp at Kanakapura and the doctor gave her medicine and told her not to breast feed the baby. She gave her son Rs.500/- of Amul milk at 1 kg tin/month.

#### 5.4.2 Introduction of Water and Supplementary Foods

Water generally seems to be fed to the infants only after several months. This traditional wisdom regarding the lack of need for additional water in breastfeeding infants seems to be well entrenched in our study population, though the pediatric literature has called attention to it only recently. (Almroth 1990, Sachdeva 1991)

Supplementary foods should be introduced between 4 and 6 months of age, Introducing these too early appears to considerably increase the risk of diarrhoeal disease, and excessively late introduction can result in malnutrition. Supplementary foods were begun by most women after 4 months, and most frequently between 4 & 6 months.

According to Sidamma, when the breast milk becomes insufficient and the child starts crying, she gives weaning foods (Melina Aahaara).

The differences by mother's annual work category are very small, but there seems to be a difference in caste group practices. 10.7% of non-SC/ST women start supplementary food at less than 4 months as compared to 5.3% of SC/ST women. ie. more non-SC women start too early and more SC women start too late according to present recommendations. Almost 30% of SC/ST women start after 9 months. It appears as if family structure also has an effect - 8.6% of women from nuclear families started supplementary foods



between 1 and 3 months (ie too early) as compared to 3.6% of women from joint and extended families. The reason is not known, but could be the need for the women to return to work on a family farm or business or as wage labourers.

The type of supplementary food used depended on the age at which supplementation was begun.

**Table 5.20 Type of Supplementary Food By Age of Introduction**

Age of introduc. suppl. food	Animal Milk	Kichri /semi-solid	Bis-cuits/ Bread	Comm-ercl. solid	Home-made Solid	Total
< 30 days	100.0%	-	-	-	-	5
1-4 mos.	47.4%	15.8%	15.8%	15.8%	5.3%	19
4+-6 mos.	41.1%	47.7%	8.4%	-	2.8%	107
6+-9 mos.	33.8%	60.3%	5.9%	-	-	68
9+-12 mos.	6.5%	55.9%	8.8%	-	8.8%	68
> 1 yr.	12.5%	68.7%	18.8%	-	-	16
Total	35.7%	50.9%	8.8%	1.1%	3.5%	283

The women have different attitudes to what to use as supplementary food. When we discussed the use of a traditional weaning food of a mix of sprouted cereals, women said it was good but time consuming to prepare, so they preferred to use biscuits.

Shivamma says that she has no idea about tinned milk. "If people like you say it is good, we will somehow give it. I gave my son Farex hoping it will help him improve."

Shivalingamma says "I would never give them ragi balls. For 3 years breast milk would be sufficient. Then I would give them rice, not ragi balls, because children get loose motions and cannot digest it".

Overall, 36% gave animal (usually cow's) milk as the first supplementary food, 51% khichri (a soft mixture of rice and lentils) or other home made semisolid foods, 8% biscuits in tea, 3.6% rice/dal/ragi balls (cooked in the morning and fed several times during the day) and only 1.1% commercially available weaning foods like Farex etc. The proportion using animal milk as the first supplementary food varied inversely with the age of the child at the time of initiation of supplementary feeding.

Appropriate weaning (ie weaning at appropriate time and using appropriate weaning foods) was determined by AWC, caste and schooling. Only about 20-26% were found to have been appropriately



weaned. The only noticeable difference between women with some schooling, 26.3% of whom used appropriate weaning materials and timing, and those with none (21.3%).

Overdilution of milk is a frequent contributor to malnutrition of the weanling. Very few women in our population fed undiluted animal milk. Most diluted it 1:1, while 7 women used a dilution as high as 3 parts water to 1 part milk. This appeared to be unrelated to the age of the child, as even women with children over 12 months of age report feeding them diluted milk, and probably reflects the high cost of animal milk.

#### Mode of feeding:

The use of bottles for feeding young children is a major cause of diarrhoea and infant deaths. Unfortunately traditional feeding vessels, which are much easier to clean than bottles, are rapidly being supplanted by the 'modern' feeding bottle. 48.5% of mothers in our sample report feeding milk to the child using a bottle (regular feeding bottle or ordinary bottle with a teat attached), the rest using a spoon, cup or local feeding beakers ("olale"). More UPFW used bottles while more WL fed their children from glasses, which is a preferable practice in this type of population.

#### Cleaning of bottle:

Obviously, it is the inadequate cleaning of feeding bottles which results in the increased morbidity in bottle fed infants. Of the 52 women who used a bottle to feed the child, 8 (15.4%) report not cleaning after each feed. 33.3% SC women and 25% of WL do not clean after every feed. The bottles were cleaned with a wide range of substances - 41.7% used boiled water, 4.2% used unboiled water, 19.4% used boiled water and soap, 6.9% used unboiled water and soap. 20 women (27%) report 'other' substances - 17 women using mud or sand, and 3 ash and tamarind. Indicative of the need for proper education and understanding is the fact that six of the women using mud or sand to clean the bottle said they used boiled water along with it!

#### 5.4.3 Work and Breast Feeding

201 women reported a past history of working outside the home while breast feeding. 63% of them were away for over 5 hours: the duration of absence for WL & UPFW seems the same. 47 women took the child to the work place all or some of the time, and 41 of them were able to feed on demand at the workplace. Only one of the six who did not reported that she was unable to because of the "employer's restriction", the other 5 being unable to feed on demand due to their work load.

Puttalingamma began to work when her younger daughter was barely 3



months old. Her father would look after the children. She said she used to feed twice or thrice and then give the baby outside milk more than breast milk. She use to mix 3/4 ltr. of cow's milk with one glass of water to feed the baby as she was afraid that the baby will get indigestion. Going out for work has decreased the quantity of her breast milk. She feels that if she had stayed at home may be she would have had more milk.

The following types of supplementary food were taken to the work place for the child - rice/rice kanji by 35.7% of women, biscuits 5.7%, roti/ragi roti 4.3%, fruits/milk 5.7% and other supplementary food 5.7%. 42.9% took no supplementary food.

169 breast feeding children of working mothers were left at home some or all of the time. 40.8% of women did not leave any special food for the child. 59.2% of those who do, leave rice, ragi or home-made semi-solids.

**NOTE:** It is important to remember that we do not know what type of work the women were engaged in at the time for which this information was collected. The information was retrospective, and the work category being used here is the Annualized Work Category. Even the current work category at the time of administering the A - F Questionnaire would not tell us what the woman was doing at the time for which these responses were collected.

#### 5.5. CHILD CARE PRACTICES

It is well known that in poor households the mother often has to work away from the home, and the responsibility for care of the child is often relegated to alternate care-takers, who are frequently the elder siblings, and quite young themselves. Under these circumstances, child care is far from adequate, and the health and nutrition of the child suffers.

Some aspects of household hygiene were evaluated at each of the six visits which were made to collect data on morbidity. These included the general cleanliness of the house, the management of drinking water and, if the child was bottlefed, the state of the feed and the bottle.

Although 48.5% of women reported having used a feeding bottle when milk was introduced to the child's diet at weaning, our finding during the morbidity rounds was that very few children were found to be using one - the highest number at any one round was 14 of the 283 households interviewed in round 2. In most cases the nipple was observed to be clean, and the milk had been in the bottle for less than one hour. Only two or three were seen to be using pacifiers at any visit.



**Table 5.21 Mother's Work Groups & Health Producing Behaviors:**

Work categ.	% isolate sick child	% child accident
SE N=13	23.1%	7.7%
WL N=141	15.6%	2.1%
UPFW N=140	21.4%	3.6%
HW N=7	-	14.3%
Total	19.2%	14.1%

Less than a quarter of women isolate a sick child and there were few accidents reported.

When collecting retrospective information regarding breast-feeding and work, we found that 47 children who were still breastfeeding were taken to the woman's work place, and 31.9% of women reported that the child had no caretaker there, but played by itself. The mean age of these children was 25.2 months with a range of 10 to 48 months. 23.4% were cared for by an elder sibling, and 36.2% by the mother. During the same period, 169 breastfeeding children of working mothers were left at home some or all of the time. The substitute caretakers were most often grandparents (generally the grandmother), followed by elder siblings, again predominantly sisters. Overall, the caretaker was female 89.6% of the time.

**Table 5.22 Age & Sex of Person looked after child at home  
By Annual Work category of IM**

Work Cat. IM	<6 year		6-10 yrs		11-16 yrs		17-45 yrs		46 & above	
	M	F	M	F	M	F	M	F	M	F
SE=7	14.3	-	-	14.3	-	42.9	-	-	-	28.6
WL=95	1.0	5.2	6.2	20.6	1.0	8.2	3.1	11.3	1.0	40.2
UPFW=57	1.7	-	3.4	20.3	-	8.5	-	16.9	1.7	44.1
HW=57	100	-	-	-	-	-	-	-	-	-
Total	1.8	3.0	4.9	20.1	0.6	9.8	1.8	13.4	1.2	40.9



When we control for the structure of the household we find that siblings are the caretakers much oftener in nuclear households than in joint or extended ones. However, there is not much difference in this regard between WL and UPFW if the household is nuclear, as we see in Table 5.23.

**Table 5.23 Care by elder siblings by HH type & work of IM**

Work Category of Index Mother	Nuclear		Joint/Extended	
	No. of HH	% care by sibling	No. of HH	% care by sibling
SE	5	100.0%	3	33.3%
WL	60	55.0%	39	17.9%
UPFW	26	50.0%	36	19.4%
HW	-	-	-	-
Total				

## 5.6 IMMUNIZATION

The impact that immunization against certain common childhood diseases can have on morbidity and mortality is too well known to require much explanation. Strenuous efforts are made by government and voluntary health agencies to disseminate information regarding the preventable diseases of childhood, and to see that all eligible children are immunized at an appropriate age. In spite of vigorous programmes and immunization drives, large numbers of children are inadequately protected. The phenomenon is universally observed and the reasons are complex. They include the lack of knowledge and of time, cultural beliefs regarding the diseases which can be prevented by vaccination as well as lack of faith in the health system. In this section we attempt to explore some of these causes, as well as the actual immunization status of the children. The data are from section D.

The women were questioned to determine the adequacy and the sources of their information regarding immunization and the diseases it protects against, as well as for data regarding the immunization status and costs of immunization of the children.

The source of information regarding immunization was the ANM or Anganwadi worker in 71% of cases and a neighbour or friend in 13%. TV & Radio were cited as the main source of information by only 2 - 3% of women. This is startling evidence that the so-called 'mass' media, which are heavily relied on for dissemination of health and other public service information, may in fact not be reaching their target audience in rural areas.



92% of women mentioned polio and knew of the availability of immunization for this disease, but only 25 - 45% knew about other common preventable diseases. We scored the women according to their knowledge of diseases, doses etc. Less than 10% of women overall had fairly good knowledge of immunization and the diseases preventable by it.

The actual immunization status of eligible children is shown in the tables below by age group and for each type of immunization. We have used the following ages to determine eligibility for particular immunizations, giving the leeway of a month or so as in the brackets to allow for some deviation from strict adherence to recommendations.

BCG - from birth (+ 2 months)  
DPT/OPV1 - 2 months (+ 1 month)  
DPT/OPV2 - 3 months (+ 1 month)  
DPT/OPV3 - 4 months (+ 1 month)  
Measles - 9 months (+ 3 months)  
Booster1 - 18 months (+ 3 months)

Apparently the frequency of immunization is highest for those given early in life, (eg. BCG, DPT 1 and OPV 1) though not 100% even for these. Age was significantly and inversely associated with the probability of immunization for all vaccines except measles and the first Booster. The data also show that immunization for a particular dose increases with ages of the children, suggesting that children continue to be immunized albeit later than is desirable.

**Table 5.24 Percent of eligible children immunized by Age of Child and Type of Immunization**

age in months	BCG	OPV/DPT 1	OPV/DPT 2	OPV/DPT 3	Measles	Booster
< 12	84.4%	85.9%	78.1%	54.7%	21.1%	---
12-23	87.0%	91.3%	85.9%	70.7%	32.6%	14.8%
2 yrs	62.8%	62.1%	62.1%	50.3%	20.7%	11.0%
Total	74.8%	79.1%	72.8%	57.5%	25.0%	11.6%

It seems reasonable to assume that the completeness of immunization might reflect gender discrimination. Table 5.25 gives the proportion of children immunized by sex. The percentage of female children immunized was systematically lower than the percentage of male children, although these differences were not statistically significant.



**Table 5.25 Percent Immunization by Sex**

Type of Immunization	Female (%)	Male (%)
BCG	71.6	77.2
DPT/OPV 1	76.1	80.8
DPT/OPV 2	57.5	72.5
DPT/OPV 3	53.7	59.3
Booster 1	5.2	7.2
Measles	18.7	22.8

Table 5.26 presents data on the completeness of immunization by age of child using the standards discussed above. This overall measure reflects trends observed with age. The proportion of fully immunized children decreases with increasing age, probably reflecting factors such as the mother's return to work and lack of perceived need for immunization for older children.

**Table 5.26 Immunization Score by Age of Child**

Age in months	N	% Not imm.	% Partially imm.	% Fully imm.
< 12	63	14.3%	31.7%	54.0%
12-23	89	7.9%	66.3%	25.8%
2 yrs +	139	27.3%	65.5%	7.2%
Total	291	18.6%	58.4%	22.9%



Work, caste and education play a role in the immunization status of the children

**Table 5.27 Immunization score by Work Cat., Caste and Education**

	NOT	PARTIALLY	FULLY
SE (N=13) NS	30.8%	53.8%	15.4%
WL (N=137)	19.7%	60.6%	19.7%
UPFW/HW (N=141)	14.3%	56.7%	27.0%
SC/ST (N=117)	24.8%	53.8%	21.4%
OTHERS (N=174)	14.4%	61.5%	24.1%
Schlng (N=38)	10.5%	57.9%	31.6%
No School (N=253)	19.8%	58.5%	21.7%
Total (N=291)	18.6%	58.4%	22.9%

Full immunization is lowest in children of SE women, and highest in those of UP/HW. However, this may be related to the age of the child, since the SE have older children and UP/HW the youngest. Almost 1/4 of SC children have no immunization, as compared to 14.4% of non-SC children. The percentage of non-immunized children of women with no schooling is twice that of those whose mothers have received some schooling.

When we look at data for specific immunization, we consistently find that for all types of immunization except measles fewer of the children of SC women, wage labourers and those with no schooling are immunized. Table 5.2.4 Appendix 5.2 This is particularly marked for the first booster dose, where only 2.9% of SC children are immunized, as against 16.5% of children of other castes. The proportion immunized against measles is about 25% of all caste and work groups, but is 50% of the children whose mothers have some schooling versus 20.8% of those whose mothers have never been to school.



## 5.7 DIETARY AND FEEDING PRACTICE

The dietary history was obtained by asking for a 24 hour recall of food prepared for the household, and the amount consumed by the index mother, index child, and one other child. The amounts were collected by approximation to standardised dietary cups which were carried by the interviewers.

Undernutrition and ill-health are closely linked, and take a heavy toll of children's lives in developing countries. While poverty and a lack of available food are certainly causes of undernutrition, we also need to be aware of the role played by misinformation, improper feeding and possible discrimination against the girl child.

The data collected concerned time spent on feeding (G and I sections), and type and amount of food eaten in the previous 24 hours (L section).

The diet in this area is generally very restricted, with the typical diet for the day being tea/coffee with bread or some cereal preparation in the morning, ragi mudde (balls made of ragi) with a thin curry containing some vegetables and pulses in the afternoon, tea or coffee again in the evening, and the leftover ragi mudde and saaru at night.

Even young children are rarely fed full strength milk - it is either diluted with water, or added to weak tea or coffee. Hardly anyone eats either rice or animal protein with any regularity. Even this restricted diet is sometimes further limited by the quantity of food available, or by dietary restrictions for religious or health considerations. For instance, green leafy vegetables, which are an excellent source of Vit. A and iron, are rarely fed to children in spite of many efforts by health personnel to popularize them. Women point out that cooking these vegetables is time consuming, requires more fuel, and that they are traditionally regarded as difficult for a child to digest.

The intra-family distribution of food has an important role to play in the child's nutrition. Some investigators report malnutrition in the children of households where the adults are adequately nourished. This does not seem to be true in our study population. "When some good food is cooked in limited quantity no priorities are given. Everyone gets an equal share", says one of our respondents.

A very important aspect of child nutrition which is not always receive adequate attention is feeding technique. The young child should be fed several times a day, and adequate feeding often requires that an adult spend considerable time on the feeding.



We find that surprisingly short periods of time are spent in feeding the child. Mothers' reports of breast feeding time range from 15 minutes to 28 hours per week - this variation might be due to the age of the child being breast fed. For feeding of solid or liquid food, the range is 10 minutes to 10 hours per week. Details by round are shown in the table below.

**Table 5.28 Time spent on feeding child by mother and others, by Round**

Rd	Mean Time/day spent by mother in breast feeding	Mean Time/day spent in feeding solid or liquid food	
		By mother	By others
I	51 min.	23	16 min.
II	65 min.	26	16 min.
III	90 min.	37	Not availbl.

While these figures may be underestimated due to poor recall, the still suggest inadequate attention to child feeding.

The type of food purchased also tells us something about the adequacy of the household's diet. Poor households typically have a diet consisting largely of cereals, with very little protein from animal sources in it. Table 5.x displays the percentage of households who report consumption of various food substances by work and other socio-economic groups.



Table 5.29 Percent HH reporting consumption of various foods

	AWC Milk	Eggs	A.P*	Dal	Oil	Rice	Ragi	DLV*	Veg.	F/N*	Other
SE	83.3	33.3	58.3	100	100	100	91.7	33.3	100	58.3	91.7
WL	71.9	24.4	56.3	97.8	95.6	90.4	99.3	56.3	93.3	33.3	77.0
UP/HW	85.2	34.1	51.9	99.3	94.8	93.3	98.5	46.7	96.3	39.2	83.7
SC	62.6	28.7	65.2	98.3	92.2	87.0	98.3	52.2	93.9	38.3	66.9
Oth	90.4	29.9	46.7	98.8	97.6	95.8	98.8	49.7	95.2	36.5	90.4
Sch	79.3	28.5	53.7	98.4	94.7	92.3	98.8	51.2	93.9	37.0	81.7
No Sch	77.8	36.1	58.3	100	100	91.7	97.2	52.8	100	55.6	75.0
No Lnd	62.1	21.8	52.9	97.2	95.4	90.8	98.9	55.2	97.7	33.3	66.7
Mrg	86.6	32.5	56.1	98.1	94.3	91.7	98.1	47.8	92.4	38.9	87.3
Sml	89.5	54.2	50.0	100	100	100	100	52.6	97.4	39.5	86.8

\* AP - Animal protein DLV - Dark green leafy vegetables F/N - Fruits & nuts

Ten to twenty percent of households report no consumption of milk or curds. More SC, landless and WL households report not consuming milk. Consumption of eggs, meat/fish and dark green leafy vegetables is reported by only 20-60% of households. Of course these data do not give us any idea of the amounts consumed by the household as a whole or the individual child.

We have estimated the expenditure on different foods as a proportion of the weekly expenditure on all food. The figures are for the entire study population, combining data for all 3 rounds and are displayed in Table 5.30

Table 5.30

Milk	8.1%
Eggs	3.8%
Meat and fish	17.6%
Dal	12.4%
Oil	4.7%
Rice/Wheat	18.2%
Ragi/Jowar/Bajra	25.6%
DGLV	8.5%
Veg	6.7%
Fruits	4.8%
Sugar/Jaggery	6.0%



### Nutrient intake

Recommendations exist for the desirable daily allowance (RDA) of various nutrients for males and females of different age groups, varying by activity level and physiological status. (Gopalan, C.) As described in the section on data collection, we gathered information on the total amount of various foods consumed by the index child on the day prior to the interview. In our analysis we have focused on the intake of calories. Since many of our children were still breast feeding, we have also made an approximation for the calories obtained from breast milk, basing it on the figures for breast milk intake by Rao et al, Appendix 5.3. Table 5.31 displays the data for mean caloric intake measured as a percentage of the RDA.

Apart from the youngest children, we see that the intake is well below the RDA for all ages in all rounds. The mother's annual work category, caste and schooling seem to make no difference.

**Table 5.31 Mean calorie intake and SD as % RDA**

	Round I	Round II	Round III
<u>Age of IC</u>			
< 12 months	104.6 (37.5)		
13-24 months	65.7 (40.2)	67.9 (21.1)	
25-36 months	70.3 (33.0)	76.2 (37.3)	85.0 (27.3)
37-48 months	75.6 (34.6)	80.3 (37.7)	73.9 (36.2)
49-60 months	62.0 (5.2)	62.1 (13.4)	67.1 (16.5)
<u>AWC of mother</u>			
SE	78.8 (31.3)	81.2 (42.1)	79.8 (38.6)
WL	75.5 (33.4)	83.5 (35.8)	76.8 (32.0)
UP/HW	67.7 (34.9)	70.4 (36.3)	78.6 (31.8)
<u>Caste</u>			
SC/ST	68.9 (34.0)	82.1 (37.8)	80.0 (36.5)
Other	73.6 (34.3)	73.8 (35.8)	76.3 (28.6)
<u>Educ.of IM</u>			
No schooling	71.4 (34.4)	78.5 (38.1)	77.3 (31.2)
Some schlg.	74.4 (32.6)	68.0 (25.0)	80.3 (37.3)



Collection of nutritional intake data is notoriously fraught with problems and these figures are probably only approximations of the actual intake. However it is commonly reported that there is a low caloric intake in poor rural households, particularly in the children of the household and our findings bear this out.

### 5.8. CHILD GROWTH & NUTRITIONAL STATUS

Adequate growth and the absence of nutritional deficiencies are generally accepted to be the definitive measures of child well-being. Growth is affected by nutritional status, morbidity as well as by genetic endowment. We have looked at various growth parameters to determine adequacy of growth, for reports of symptoms of nutritional deficiency from the morbidity data and at Hb levels. The data come from K, J and Hb sections.

The children were weighed and their height measured during a visit made specifically for this purpose. Standard anthropometric techniques were used as described in the Growth Monitoring Manual, National Institute of Public Cooperation and Child Development, New Delhi, 1988. Weighing of children was done using the TANSI scale, while women's weights were taken on a standard bathroom scale. Heights were taken as supine length for children under 2 years and as height for those over two years and for the women.

We have looked at these weight and height data in different ways in the tables below. Discussions of the advantages and disadvantages of the various methods may be found in a several publications. (Gopalan and Chatterjee 1985, World Health Organization 1983).

37-48 months	75.6 (34.6)	80.3 (37.7)	73.9 (36.2)
49-60 months	65.0 (2.2)	62.1 (13.4)	67.1 (16.2)
AWC of mother			
SR	78.8 (31.3)	81.2 (42.1)	79.8 (38.6)
WL	75.2 (33.4)	83.2 (32.8)	76.8 (32.0)
UP/HW	67.7 (34.9)	70.4 (36.3)	78.6 (31.8)
Caste			
SC/ST	68.9 (34.0)	82.1 (37.8)	80.0 (36.2)
Other	73.6 (34.3)	73.8 (32.8)	76.3 (28.6)
Educ. of IM			
No schooling	71.4 (34.4)	78.2 (38.1)	77.3 (31.2)
Some schip.	74.4 (32.6)	88.0 (22.0)	80.3 (37.3)



The Gomez criteria for nutritional status have been widely used and are familiar to most people involved in child health issues, therefore we initially analyzed the children's weights by the Gomez criteria. Since the number of children who fell within the normal group was small (only 3% and 5% in Rd.1 and Rd.2 respectively) we have merged the normal children and those with grade 1 malnutrition. The tables below give our findings.

**Table 5.32 Gomez classification of Nutritional status by Age in Rounds I & II**

Age in months	Round I				Round II			
	Nml+ 1deg.	2 deg.	3 deg.	N	Nml+ 1deg.	2 deg.	3 deg.	N
<12	53.8	38.5	7.7	26	-	-	-	-
12-23	53.7	41.7	4.6	108	48.0	45.3	6.7	75
24-35	44.8	50.7	4.5	67	40.4	51.7	7.9	89
36+	39.7	54.8	5.5	73	38.5	47.7	13.8	109
Total	47.8	47.1	5.1	274	41.8	48.4	9.9	273

Only about 54% of children are in the Normal/Grade 1 group even in the first year of life, and this number decreases steadily with increasing age. The number with grade 3 malnutrition increases only slightly. The proportion of children with grade 2 and 3 malnutrition is higher in the second round than in the first. This may reflect seasonal variations in morbidity or food availability, but we are unable to separate out these effects. A startling 13.8% are in the grade 3 category in round 2, a finding for which we have no explanation.



Table 5.33 Gomez classification by Age, Sex and Round

Age in months	Sex	Round I		Round II	
		2+3 deg malnutr	Cases	2+3 deg malnutr	Cases
<12	Male	46.7	15	-	-
	Female	45.5	11	-	-
12-23	Male	44.7	47	47.5	40
	Female	47.5	29	57.1	35
24-35	Male	57.9	38	52.4	42
	Female	51.7	15	66.0	47
36+	Male	53.5	43	60.0	65
	Female	70.0	30	63.6	44
Total	Male	51.0	143	54.4	147
	Female	53.4	131	62.7	126

The proportion of female children with grade 2 and 3 malnutrition is consistently higher than that of males. This is true for all age groups after 12 months of life, and in both rounds, with the exception of the 24-35 month group in Rd I.

In the tables below we have used the Z score to evaluate weight for age, height for age and weight for height.

Table 5.34 Weight for Age Z scores by Age, Sex and Round

Age in months	Sex	WAZ SCORES Round I			WAZ SCORES Round II		
		Mean	SD	Cases	Mean	SD	Cases
<12	Male	-2.54	0.70	14	-	-	-
	Female	-2.06	1.12	11	-	-	-
12-23	Male	-2.29	0.89	47	-2.62	0.96	40
	Female	-2.35	0.88	61	-2.56	1.01	35
24-35	Male	-2.36	1.06	38	-2.46	0.99	42
	Female	-2.60	0.98	29	-2.76	0.79	47
36+	Male	-2.34	0.79	43	-2.47	0.86	65
	Female	-2.75	0.85	30	-2.84	0.94	44
Total	Male	-2.35	0.89	142	-2.51	0.92	147
	Female	-2.48	0.93	131	-2.73	0.91	126

.000                      -2.41                      0.91                      273                      -2.61                      0.92                      273



Table 5.35 displays WAZ for the children by mother's work categories. No significant differences emerge.

5.35 WAZ by Work category of Mother

	N	R I	N	R II	N	R III
SE		-2.30 (.9)	7	-2.90 (1.1)		
WL		-2.56 (.95)	77	-2.60 (1.1)		
UPFW		-2.29 (.9)	163	-2.62 (.9)		
HW		-2.53 (.86)	25	-2.56 (.7)		

The Z scores for weight for age again show the disparity between the boys and girls, a decrease with age in the mean for girls, and a very significant difference for the total sample when the two rounds are compared.

Table 5.36 Height for Age Z scores by Age, Sex and Round

		HAZ SCORES Round I			HAZ SCORES Round II		
Age in months	Sex	Mean	SD	Cases	Mean	SD	Cases
<12	Male	-1.32	1.32	14	-	-	-
	Female	-1.87	1.20	11	-	-	-
12-23	Male	-1.47	0.19	48	-1.92	1.07	40
	Female	-1.62	0.97	61	-2.19	0.98	34
24-35	Male	-1.53	1.64	37	-1.55	1.49	42
	Female	-1.96	1.39	29	-1.97	0.98	47
36+	Male	-1.99	1.26	43	-2.02	1.23	65
	Female	-2.34	0.99	30	-2.47	1.18	44
Total	Male	-1.63	1.36	142	-1.86	1.28	147
	Female	-1.88	1.13	131	-2.21	1.06	125

.000                      -1.75                      0.91                      273                      -2.02                      1.19                      272

Significant between rounds=.000 and ages=.01

The Z score for height for age (HAZ) show similar results as the WAZ scores. This is a rather surprising finding, as we might not expect height to be as rapidly affected by seasonal decrease in food availability. In this case, the falling off in weight for age percentiles is greatest for all children after the age of 36 months, but is again greater in girls than in boys.



Table 5.37 Weight for Height Z scores by Age, Sex and Round

Age in months	Sex	WHZ SCORES Round I			WHZ SCORES Round II		
		Mean	SD	Cases	Mean	SD	Cases
<12	Male	-1.79	0.70	14	-	-	-
	Female	-0.86	1.13	11	-	-	-
12-23	Male	-1.77	0.90	47	-1.90	0.89	40
	Female	-1.80	0.97	61	-1.84	1.17	34
24-35	Male	-1.74	1.03	37	-1.82	0.91	42
	Female	-1.73	0.73	29	-1.89	0.86	47
36+	Male	-1.66	0.82	43	-1.85	0.89	65
	Female	-1.81	0.83	30	-1.89	0.91	44
Total	Male	-1.73	0.89	141	-1.85	0.89	147
	Female	-1.71	0.94	131	-1.88	0.96	125

.000                      -1.72                      0.91                      272                      -2.61                      0.92                      272

The Z scores for weight for height bear out what is shown by the tables above - that while these children are of both low weight and low height for their ages, they are also of low weight for their heights, suggesting continuing undernutrition over and above a state of chronic undernutrition.

The usual experience has been that there is little evidence of gender discrimination in studies of south Indian children, as opposed to children from other states. In our population, which is chosen from the poorest stratum of society, we do appear to see evidence of some discrimination against female children. Our other finding of worsening growth standards as age increases is one that is commonly observed.



### 5.9. CHILD MORBIDITY

The frequency and severity of childhood morbidity is another obvious indicator of child well-being. The data in this section come from the morbidity schedules, which were meant to be administered six times and reflect a 12 week experience. A combination of observation plus one week recall method was used to collect the morbidity data.

Each household was asked if any household member had been sick in the previous 15 days. We collected information about symptoms, response to illness and costs for all reported episodes of illness.

During the study period, 2 deaths were reported. One was of an index child aged two who was hit by a vehicle, another of an index mother. These families were dropped from the study after the death. There were two deaths of household members other than the IC or IM.

There were 301 active households at the time of the first three morbidity rounds, but only 291 for the last three. Some households missed one or more morbidity rounds: Of the 291 households who completed the study, 187 households have a complete set of 6 recall points while 77 have 5, 22 have 4, 4 have 3, and 1 has only 2-the first and last). Between 257 & 284 households were interviewed at each morbidity round and 40 to 50% of the households interviewed reported no illness. A total of 1286 episodes of illness were reported by 1244 persons (out of a total population of 1627).

The following section describes episodes of illness reported for the index children. Patterns of morbidity and treatment for all children under 5 are also discussed.

Children under 5 accounted for 502 episodes or 39.3 percent of the total reported episodes of illness. Index children had 433 reported episodes of illness. In 52.5% of the episodes, the child was still sick at the time of interview.

The patterns of childhood illness that are found in under-privileged populations tend to be predictable. The commonest are respiratory and diarrhoeal diseases. For ease of analysis, we have combined various illnesses into some broad categories as below. Upper respiratory infections and fevers with a cough or cold are grouped under Respiratory, gastrointestinal symptoms like diarrhoea and vomiting under Diarrhoeas, fever of unknown origin as Fevers, and pharyngitis, conjunctivitis and ear discharge are combined as O/ENT infections. Childhood diseases includes the communicable diseases of childhood, such as chickenpox, measles and mumps as well as post-immunization morbidity. Various different symptoms are clubbed as Other, and will be separately discussed when relevant.



The table below contains the clubbed information for all six morbidity interviews. This involves treating observations on the same child as different observations thus introducing correlation across cases and therefore the results should be treated with caution. The pattern is a familiar one, with respiratory and diarrhoeal diseases the most frequent types of illness, and skin infections and unexplained fevers comprising a fairly large proportion of the morbidity. Problems following immunization were reported by only one mother, and the other communicable diseases of childhood reported were 5 cases of mumps and 17 of measles or chickenpox. A total of 16 injuries were reported. Six episodes of convulsions were reported, some of which were apparently febrile convulsions, the others being of unexplained origin.

**Table 5.35**                      **Reported Morbidity for index children**

	No of episodes	% of total episodes	Morbidity rate (episodes per 100 recall periods N=1633)
RESPIRATORY	181	41.5	.111
DIARRHEA	85	19.5	.055
SKIN INFECTIONS	47	10.8	.022
FEVERS (PUO)	35	8.0	.021
CHILDHOOD DISEASES	22	5.0	.013
INJURIES	16	3.7	.010
OTHER	50	11.5	.031
TOTAL	433	100%	.265

**Table 5.36**                      **Other Symptoms Reported for Index Child**

Other Symptoms	
Asthma/	
Chronic resp	2
ENT	9
GI	7
Eye	11
CNS	8
Dental	1
Musc skel	2
Jaundice	5
Unknown	5
Total	50



Table 5.37 Rates of Index Child Illness By Round and Sex

	R1	R2	R3	R4	R5	R6	Total	Epi sod e /yr
<b>Males</b>								
URI	0.016	0.017	0.104	0.060	0.125	0.097	0.111	2.7
Diarrhoea	0.094	0.065	0.065	0.067	0.028	0.007	0.055	1.3
Other	0.040	0.019	0.019	0.015	0.014	0.021	0.022	0.5
Total	0.356	0.260	0.299	0.254	0.222	0.215	0.268	6.4
No. of Childrn	149	154	154	134	144	144	879	
<b>Females</b>								
URI	0.156	0.140	0.131	0.065	0.082	0.086	0.110	2.6
Diarrh.	0.082	0.047	0.077	0.041	0.025	0.023	0.049	1.2
Other	0.016	0.008	0.031	0.081	0.041	0.047	0.037	0.9
Total	0.328	0.256	0.308	0.236	0.230	0.234	0.265	6.4
No. of childrn	122	129	130	123	122	128	754	
<b>Both</b>								
URI	0.159	0.127	0.116	0.062	0.105	0.092	0.111	2.6
Diarrh.	0.089	0.057	0.070	0.054	0.026	0.015	0.052	1.2
Other	0.030	0.014	0.025	0.047	0.026	0.033	0.029	0.7
Total	0.343	0.258	0.303	0.245	0.226	0.224	0.267	6.4
No. of childrn	271	283	284	257	266	272	1633	

Upper respiratory infections and diarrhoea comprise the major types of morbidity. The rates of illness show no major differences between the male and female index children.



Annual work category of mother does not seem to show a significant effect on either rates or patterns of illness - Table 5.38 & 5.39

**Table 5.38 Rates of IC illness by Ann. Wk. Cat. of mother**

Work Category	No. of episodes	Recall periods	Rate
SE	-	71	.155
WL	193	756	.255
UPFW/HW	225	782	.287

**Table 5.39 Symptom groups for IC by Ann. Wk. Cat. of IM**

	SE	WL	UPFW/HW
Respiratory	72.7	43.0	38.7
Diarrhoea	18.2	21.2	18.2
Skin Infections	-	9.8	12.4
Fevers (PUO)	-	4.1	6.2
Childhood Diseases	-	7.3	9.3
Injuries	9.1	3.1	3.1
Other	-	11.4	12.0



The type of response to illness is also an important aspect of morbidity, and may be more meaningful in respect to the mother's competence and ability to care for her child. This is examined in the tables below.

**Table 5.38 Treatment Patterns and Expenditures for Index Child Morbidity (6 rounds of data)**

Provider	Episodes of Illness		Avg. No. of Visits	Total visits	Avg. cost per episode	Total cost **	as % of total	Avg. cost /contact*
	No.	%						
Home med.	39	8.9	n/a	n/a	9.85	384	3.3	n/a
VHP	20	4.6	n/a	n/a	19.31	386	3.4	n/a
Gvt. PHC	40	9.2	1.63	65	20.97	839	7.3	12.91
Gvt. Hos	62	14.2	1.87	116	46.33	2872	24.9	24.76
RMP/MD	77	17.7	1.65	127	52.34	4030	35.0	31.74
Ovt. Hos	41	9.4	1.44	59	57.56	2360	20.5	40.00
Med. Shp	47	10.8	1.32	62	9.65	454	3.9	7.32
Hospld	1	0.2	1	1	200	200	1.7	200.0
Noactin	144	33.0	n/a	n/a	n/a	n/a	n/a	n/a
Total	436	***		430	39.47	11526	100%	25.01

\*\*\* percentages do not sum to 100 because of multiple responses

\*\* total average for treated episodes only

\* total average excludes home medication and vhp

To estimate amount spent over entire year	
number of episodes	6.4
Percent treated	66.97%
avg cost per episode	39.47
Total exp per year	169.19

No action is taken for a third of all illnesses. Only one child was hospitalised. A private practitioner is consulted for 17.7% of all episodes, and the government hospital used for 14.2% of episodes. Home medication, the PHC, private hospitals and the medical shop are all used with about the same frequency. The village health practitioner is used least. These seem not to be the traditional 'Village healers' but some combination of homeopaths and vaides.

We further analyzed health care seeking behaviour by work category, caste and mother's education, since these are obviously potentially important factors.



Table 5.39. % seeking treatment for IC during episode of illness  
by Annual work category, caste and education

	SE	WL	UP/HW	SC/ST	Other	No.Sch	Schlg
Home med.	-	9.3	8.9	10.4	7.8	9.1	7.6
VHP	-	4.7	4.9	4.0	5.1	4.4	6.1
PHC	9.1	10.9	8.0	9.8	9.0	9.4	9.1
Gvt.Hsp.	36.4	15.5	11.6*	17.3	11.7+	15.2	7.6
RMP/MD	-	16.6	20.0	21.4	15.6	17.9	18.2
Pvt.Hsp.	9.1	9.3	9.8	5.8	12.1*	9.9	7.6
Med.Shop	36.4	9.3	10.2*	9.8	10.9	10.5	10.6
No action	18.2	36.6	34.2NS	30.6	34.8	32.0	39.4
Episode#	11	193	225	173	256	363	66

\*\* <.01    \* <.05    + <.1

More self-employed women use the government hospital and the chemist as the source of care. More SC women take their children to the government hospital, while non-SC women use the private hospital. More women with some schooling take no action in response to the children's illnesses, which may be an indication of an appropriate reaction to the relatively minor illnesses which prevail.

We tried to determine what factors determined the probability of treatment.

Table 5.40 Probability of Treatment by annual work category

Work categ.	Med.treat	Episode
SE	81.8	11
WL	57.0	193
UPFW/HW	55.6	225
Total	56.9	429



The probability of treatment is not significantly affected by the work-category of the mother, but is related to the type of symptom.

**Table 5.41 Probability of treatment by type of symptom**

Symptom	% treatment	Episode
Respiratory	55.2	181
Diarrhoea	68.2	85
Skin diseases	42.6	47
Childhood diseases	18.2	22
Fever	68.6	35
Injuries	75.0	16
Other	60.0	50
Total	56.9	436

$p < .01$

Infectious diseases of childhood are not treated in more than 80% of cases, probably since these are regarded as being caused by divine forces (*amme*, or the goddess). 75% of injuries receive treatment and 68% of fever and diarrhoea.

The average cost per episode of illness is between Rs.45 and Rs.58 at the government hospital, private hospital and by the private practitioner. Even at the PHC the average cost is about Rs.20. Since care at the PHC and government hospital is supposed to be free this is presumably incurred for medicines.

The most commonly used system of medicine for home remedies is Ayurveda (18/47), followed by pujas (9/47). The mean cost for the home remedies ranges from Rs.2-150, with a median of Rs.10.



Many reports exist of gender differentiation in health care seeking patterns (Ghosh 1987). Table 5.42 displays the sources of treatment by sex of the ill child.

**Table 5.42 Treatment Patterns by Sex**

	Male N=236	Female N=200	No. of Episodes
Home Medic.	8.9%	9.0%	39
VHP	4.2%	5.0%	20
PHC	8.9%	9.5%	40
GVT-HOSP	16.9%	11.0%	62
MD/RMP	19.5%	15.5%	77
PRIV-HOSP	8.9%	10.0%	41
Chemist	10.2%	11.5%	47
No Action	30.9%	35.5%	144

Boys seem to be taken to private doctors or to the government hospital more frequently, while more episodes of girl's illnesses receive no attention, suggesting that there is some discrimination against girl children in this regard.

Coping with illness is one of the more stressful problems that women have to face. They have to deal with insufficient time to care for the sick child, insufficient money, problems with transportation, as well as with a variety of social strictures regarding health care. Sidamma tells us 'We usually take them to the hospital, rather than using home remedies. They are not much use I feel, having observed the neighbours'. She described to the investigator how a recent episode of illness had been handled. Chelavaraju had been suffering from a cough and a fever for about three days. As this was an illness which had to be 'medically' treated, she went to the local petty shop and got a 60 paise tablet for fever. She split that in two and gave it to her child twice. His condition did not improve. Considering going to the doctor at Satanur approximately 2 kms from Halsur, she decided to combine that trip with her marketing trip for the Ugadi festival. She felt that she could postpone her visit to the doctor for that one day. She said specifically that she wanted to get an 'injection' for her son from the doctor. On the day when she was supposed to go to the doctor her mother-in-law and some elder neighbours advised her against it as it was a 'new moon day', and so she had to put off going again.



## Diarrhoea

Diarrhoea is one of the major killers of children under the age of five. Many of the deaths could be prevented by preventing dehydration and malnutrition. The Government of India has a Control of Diarrhoeal Diseases programme, which emphasises the training of mothers and of health personnel in the proper management of diarrhoea.

A total of 85 episodes of diarrhoea were reported in children under five (499 children) over the twelve week period of recall. Twentyfive percent (21) of the mothers made changes in the solid food given to the child - two stopped all solid food. 56% reported that the child ate less solid food, while 37% reported no change in the volume eaten. 41% increased fluids, 39% made no change and 20% decreased it. Of the women who changed the type of fluid fed to the child, 4 gave dal water or rice gruel, one Electral (a commercial electrolyte solution) and 27 used other liquids, often tender-coconut water. None reported using home-made sugar and salt solutions.

The child was taken to the government hospital or to a private hospital for thirtytwo reported episodes of diarrhoea, and to a private physician in twenty cases. The age range of these children was 5 months to 4 years, and the duration of diarrhoea for those with completed episodes was 3 to 30 days. The decision to consult a doctor seemed unrelated to age of the child or duration of illness. No action was taken in 21.1% of cases.

Compliance is often a problem in even well educated populations. In our population 72.9% of the women say that the recommended course of medication was completed. The commonest reasons for not completing the course were either that they could not afford it, or that they had just not bought it yet.

When the sick person is a child, and the mother is working outside the home, she is the caretaker only 27.1% of the time. Chikkamma said that when her children are not well, she does not go out anywhere or sit in the shop, nor does she do any sericulture work. Obviously this is a luxury that not many women share.

### **5.10. WOMEN'S HEALTH AND NUTRITIONAL STATUS**

Although the health of the index mother is not the immediate question addressed in this study, it is obviously important, both intrinsically as well as in relation to her ability to adequately care for her family.

As noted by Khan et al. (1982), women have more episodes of illness that are of longer duration than those of men in the family. But only 9% of women sought treatment from the PHC or government health system, the majority preferring to rely on



traditional remedies. As a result, they make contact with the health care system late in their illness, thus worsening the prognosis. Perinatal morbidity and mortality are among the major causes of women's health problems. Maternal mortality rates are unacceptably high in developing countries, and various studies have estimated that morbidity related to pregnancy and delivery is about five to sixteen times as high as mortality. Existing health services are poorly utilized, and the reasons for this are not clear, though accessibility and the lack of empathetic handling have been blamed. Government health providers do not know much about the treatment of g-u diseases in women.

**Table 5.43 Rates of Index Mother Illness by Round**

Episodes	R1	R2	R3	R4	R5	R6	Total
Respirat.	0.103	0.064	0.063	0.062	0.079	0.132	0.084
Diarrhoea	0.018	0.021	0.035	0.023	0.023	0.033	0.026
Musc.Skel	0.030	0.025	0.000	0.027	0.008	0.004	0.015
Gyn/Urin	0.085	0.018	0.028	0.027	0.019	0.015	0.032
Other	0.048	0.046	0.049	0.054	0.023	0.029	0.042
Total	0.284	0.173	0.176	0.195	0.150	0.213	0.198
N of IM	271	283	284	257	266	272	1633

Respiratory illnesses are the predominant problem reported. Genito-urinary problems were not reported as frequently as we would have expected, and we suspect this may have some relation with the fact that six of the eight field investigators were young unmarried women, and as such the respondents might have been reluctant to divulge information regarding these problems.

Data from the NIN group of the same network indicates a much higher incidence of female morbidity. Our figures also seem low compared to reports from Maharashtra and CINI. (Bang 1989)



Table 5.44 Treatment Patterns and Expenditures for Index Mother Morbidity (6 rounds of data)

Provider	Episodes of illness		Avg No. of Visits	Tot visit	Avg cost/episode **	Total Cost	as % of Tot.	Avg. cost/contact
	No.	%						
Home medicine	14	4.3	n/a	n/a	9.14	128	1.8	n/a
VHP	10	3.1	n/a	n/a	70.20	702	9.7	n/a
Gvt./PHC	41	12.6	1.46	60	22.02	903	12.5	15.05
Gvt/Hosp	33	10.2	1.28	42	29.85	985	13.6	23.30
RMP/MD	50	15.4	1.54	77	53.04	2652	36.7	34.44
Pvt.Hos.	26	8.0	1.31	34	56.80	1477	20.4	43.44
Med.Shop	31	9.5	1.32	41	11.10	344	4.8	8.43
Hosptlzd	1	0.3	1.0	1	40	40	0.6	40
No.action	133	40.9	n/a	n/a	n/a	n/a	n/a	n/a
Total	325	***		255	24.76	7231	100	25.09

\*\*\* percentages do not sum to 100 because of multiple responses

\*\* total average for treated episodes only

\* total average excludes home medication and vhp

To estimate amount spent over entire year

number of episodes 6.4

Percent treated 59.08%

avg cost per episode 24.76

Total exp per year 93.63

More than 40% of episodes of illness receive no attention. Only 1 woman was hospitalised. Home medication is used even less frequently than for children's illnesses.

The probability of treatment seems related to the type of symptom, being highest for fever (87.5%) and lowest for gynaecological problems (33.3%). Health care seeking is probably also related to the economic status of the woman - one of the women, asked why she was performing wage labour when she was ill with a fever replied 'I have to repay the loan we took for my father's death ceremony. Can poor people like us afford to be sick?'

For illnesses which do receive care, private practitioners are most frequently consulted, at an average cost of Rs.34.4 per contact and Rs.53 per episode of illness. This bears out other reports of an increasing trend towards the use of private sources of medical



care. The mean cost of care is highest for gynaecological diseases, being Rs.89.5. However, as our case studies bear witness, the families in our study population are unable to handle these expenses and often incur large debts to pay for such medical care. (Ch.7)

We have repeatedly observed the devaluation of home and folk remedies. Respondents would often claim to have no knowledge of such remedies. Only after one of the group of field workers, herself a physician, mentioned several home remedies she used for her own family did one get tentative agreement and information from some of the assembled women.

#### Nutrition of the index mother:

The RDA for calories is 2060 cal per day for the 16-18 year old girl and 2265 for the adult woman doing moderate work. (Gopalan 1990) These recommended values increase with hard labour, pregnancy and lactation.

According to our estimates of intake, the mean caloric intake per day for the women is 1835. The percentage of women attaining a specified daily caloric intake is given in the table below.

**Table 5.45                      Energy In-take    of Indexmother**

Age	N	<160 0	1600 - 1800	1800 - 2000	2000 - 2200	2200 - 2500	2500 - 3000	> 3000	Tota
16-18 years	17	41.2	11.8	17.7	5.9	11.8	11.8	0	100
18-21 years	63	36.5	11.1	17.5	7.9	12.7	11.1	3.2	100
>21 years	210	31.1	9.1	12.4	15.2	10.0	10.0	4.3	100
Total	290	38.6	9.7	13.8	13.1	10.7	10.3	3.8	100

These data show that the majority of women in our study consume less than the RDA; if the woman is pregnant or lactating, the deficit in calories and protein will be even greater than is indicated here.

#### Anthropometric indices for Index mother

Women whose height is less than 145 cm and weight is below 38 kg. are by definition at high risk for perinatal morbidity and mortality. Many women in our study fall within this category, 23.9% weighing less than 38kg and 6.2% being less than 145 cm in height.



## ANAEMIA

Anaemia is a very common finding in poor rural populations. The reported prevalence of a haemoglobin level under 11 gm/dl in pregnancy is 50-70% in rural areas. The commonest reason is iron deficiency combined with chronic blood loss. It can have serious consequences, particularly for the pregnant and lactating woman whose already low iron stores are further depleted by these demands. Iron expenditure may be as high as 800 mg. during a single pregnancy, and during lactation the maternal loss of iron is estimated to be about 1mg/day.

Anaemia prophylaxis programme has been operative for the last 20 years, and was initiated during the V Five Year Plan. It was recommended to give one tablet of 60 mg iron and 500 mg of folic acid for 100 days during pregnancy. It was called prophylaxis programme, because the extent and severity of anaemia was not fully recognised. Supplies were limited and no clear cut strategy was laid out, hence the utilisation was very poor and compliance even worse.

In view of the fact that 70-80% of pregnant women are anaemic, the strategy had been changed during the VIII Plan and all pregnant women are supposed to get 100 mg of iron and 500 mg of folic acid daily for 100 days.

109 adult women and 208 children between the ages of 6 months and 15 years had haemoglobin estimates performed. Only 17.4% women had Hb within normal limits, while 32.1% had clinically significant anaemia. Between 3 and 13% of children had normal Hbs, 26-57% were moderately or severely anaemic. Very few of even the severely anaemic women reported symptoms related to anaemia. While many complain of "susthu" (roughly translatable as tiredness) JR?? this was a complaint made by women without anaemia as well. Only one complained of breathlessness and inability to walk very far - on examination she was extremely pale, and to our horror, her haemoglobin level was 4.0 gm. Since the iron tablets at the PHC are only dispensed to pregnant and lactating women (albeit to very few of them, as discussed earlier), we could not get her treated by the ANM nor by the PHC doctor, and were forced to recommend a visit to the nearest government hospital, after giving her some iron and folic acid tablets bought by the study personnel.



Table 5.46

Incidence of anaemia in women &amp; children

Age & physiol. status	Normal (Hb>11) No. & %	Anaemic 8 - 11 No. & %	Clin. Sign if 6 - 8 No. & %	Severe < 6 No. & %
Women non pregnant N=92	17 (18.5)	49 (53.3)	18 (19.6)	8 (8.7)
Pregnant & Lactating N=17	2 (11.8)	6 (35.3)	5 (29.4)	4 (23.5)
Children 6mo-3 yrs. N=64	5 (7.8)	23 (35.9)	28 (43.8)	8 (12.5)
3 yrs-5 yrs. N=71	9 (12.7)	36 (50.7)	22 (30.9)	4 (5.6)
5 yrs-15 Yrs. N=73	3 (4.1)	38 (52.1)	25 (34.2)	7 (9.6)

#### Locally recognized diseases:

We encountered several syndromes of disease which are recognized as distinct entities, and often treated only by local healers. Some of them are:

Kembara appears to be connected with child bearing and generally affects the child, though it can affect the mother. The people in the area believe that it can be prevented by taking "Ulsinchakke" during pregnancy. This is the bark of the portia tree (*Thespesia populnea* Var *Acutifolia*) and it is taken as a decoction or powder. There are various manifestations of Kembara in the child which seem to include jaundice, various skin eruptions (erythema toxicum, staphylococcal skin disease, omphalitis) and prolonged diarrhoea during the first several months of life.

Beethi Shanke is thought to be caused by possession by spirits; again the term is used for a wide spectrum of diseases and symptoms, including, by our observations rheumatoid arthritis, epilepsy and dizziness during pregnancy.

The following 3 are varieties of skin infections described by a local general practitioner as follows:

Isbu - All types eczema, fungal infections, psoriasis, broadly all skin lesion which are predominantly allergic, complicated or uncomplicated.

Nagara - Hunnu Impetigo, furunculosis, pyoderma (superficial infection of the skin)

Arasthi-Allergic inflammation, sometimes secondarily infected.



## 5.11 DESCRIPTION OF ICDS ANGANWADIS AND HEALTH SERVICES

An evaluation of the existing health related services was obviously of great interest to us, and the team visited the known anganwadis and the PHC and sub-centres, as well as spending considerable time with the ANMs.

There are six ICDS Anganwadis operating in these eight villages, as well as one Balwadi that was said to be only for SC & ST children in one village.

The anganwadis are housed in a variety of places. Some are in pucca houses or in huts, one functions on an open verandah, another in a crude cattle cum silkworm shed. Most have a room or cupboard that is lockable, where food supplies, weighing scales and the numerous registers are kept. The cooking areas may or may not be separate, but most of them, are poorly ventilated and fill up with smoke when the cooking is done. A stray dog, full of fleas, was seen to enter one AW, shake itself and lie next to the children.

Teaching materials are virtually non-existent - a few ragged charts hang on the walls of one or two of the anganwadis, but no "hands-on" material was ever shown to us.

One AWW mentioned that the main problem with the AW was the lack of indoor space for the children. However, when we asked her if she took the children outside to play she seemed surprised at the idea.

### Anganwadi Personnel

Most AWW are young, in their twenties or thirties, and some are married. Most have studied upto SSLC level, one has failed SSLC. None of them are residents of the village where the Anganwadi in which they work is located. Those who live in nearby villages walk to work while others spend as much as Rs. 4/day on bus fare. Most of them say that they prefer not to work in their own village as they feel they would get "less respect" there.

One AWW told us that there is an initial training period of 3 months in Bangalore for AWWs after which these "trained" workers are assigned to an AW. After two years there is an 18-day refresher course at the taluq headquarters, in this case Kanakapura. There is no further training. The AWW's immediate supervisor is the Mukhya Sevika, who has about 20 villages under her each of which she visits once a month. She is supposed to upgrade the AWW's skills. Whether this actually happens is uncertain, as the supervisors are also kept very busy with paper-work. One supervisor had been posted as an ACDPO and had been away for 3 months prior to the time of our visit. When present, she used to occasionally tell the AWW of new songs to teach the children.



### Population of the anganwadis

According to the AWW children between 1-3 years of age are not supposed to be at the Anganwadi though they are entitled to food. If food has been collected by the family for them they are marked as present in the register. The 3-6 year olds are the ones who actually come to the AW. Supposedly they are taught songs and games and then given food.

Attendance varies between 60-90% according to the registers. However, in one Anganwadi we found that the attendance register is marked in advance for the whole week. Children had been marked present on a day when we had observed the AW to be closed and knew that the AWW and her helper were in Kanakapura. On several occasions we observed very few children in the AW. The reasons given to us by one AWW for poor attendance on a day when we visited were that they do not like the food or are away from the village. In one AW children were found coming even after the 'class' has been sent home.

Pregnant and lactating women are also given supplementary food, but women who have come to their natal homes in the village prior to their deliveries cannot avail of this service. Initially the women were given packets of uncooked food, but now the food is cooked and given to them. The AWW say that the women do not seem to object to this.

According to the AWW there is no discrimination against families from SC/ST either by workers or other families. However our observations seem to suggest otherwise. In one village the SC/ST children were found sitting separately. Children were found using their own bowls rather than the plates that the AW is supposed to have. The reason given by the AWW was that parents did so to avoid "contamination" from AW bowls which could have been used by SC/ST children. In one village the SC/ST families commented that the AWW would tell observers like us one thing, but behaved differently when we were not there. They were badly treated if they complained or protested about the AW services. We asked why they did not go to the SC representative in the Mandal Panchayat, and got the reply that they too would not bother to do anything. Another AW exists in this village, only for SC & ST children. This had not been functioning for some time, no food was given there, and lately the worker had not been coming. These children were found not to be going to the ICDS AW either.

### Anganwadi activities

The worker and her helper are supposed to collect the children who are not brought by the families to the AW, conduct the education session, cook the food and feed them by 1.30 pm. Between 2 and 4 p.m. the worker is supposed to make home visits. In one village the AW teacher was involved in the census of the village, and was



therefor unable to keep her normal routine of visiting 2-3 households a day.

#### Growth monitoring

The children are supposed to be weighed once a month. If the growth charts suggest inadequate growth, the workers say they give extra food to those children. If there is still no improvement, often it is a sign that the food is not being consumed by the recipient and is perhaps being fed to others - maybe even to the cattle.

On looking at the growth charts in one village, we noticed that every child appears to have stayed at the same weight for the past year. Explanations by the AWW made it obvious that she understood neither the basic concept of the growth chart nor how entries should be made. The Gram Sevika who was present did not find this unusual and also did not seem to feel responsible for picking up these errors and correcting the worker. In another centre, children had not been weighed for several months.

#### Child care and pre-school education

Some of the children who we observed were dirty and unkempt and no effort was made to clean them or keep them from rolling on the mud floor. Before serving food in one AW, the helper got the children to wash their hands while she poured water for them but most of them were not able to wash their hands very well. In one AW, the helper said that though she advised the mothers on the cleanliness of their children they said they had no time to wash them. The helper says she washes those children who have not been washed at home.

In another AW children were found trickling in throughout the morning and simply sitting in a line against the walls. While the children were waiting for their food not much was being done with them. Though some of the workers and helpers are obviously kind and protective they show little sensitivity or imagination in their handling of the children. The children are not able to sing songs by themselves though they can repeat what the teacher sings. In the AW that met on the verandah of a house it was observed that the teacher was not conducting any play activities. Her explanation was that she could not teach songs etc in a public place where the menfolk could see her. She was allowed to use the inside of that house only for cooking purposes. The workers seem to get little help with the teaching programme at the Anganwadi. Any teaching aids or crafts materials they need they must procure themselves, and are anxious to keep this in good condition so they are often locked up and not given to the children. In one AW when we asked to see the teaching materials we found only broken strings.



## Health care

An immunization camp is held once a month in the Kadahalli AW for 6 villages - Kadahalli, Boohalli, MT Doddi, Halasur, Dhoonthur and Harihara. The AWWs organize the camp along with the ANM, who gives the immunizations and fills each child's immunization card. The AWW keeps a separate record of this in a register. The children are brought by jeep if it is available, otherwise AW staff or parents have to bring them by public transport.

In another AW the AWW had been given a kit of 12 medicines but did not know how to use them. The ANM comes here once a week to check if any children are ill. The supervisor visits once a month or so to check the registers.

## Food

The food that most Anganwadis were getting at the time of our study was the corn-soy mixture from CARE and refined vegetable oil from the USA. In one AW the oil was bought from outside. Reports were that the supplies were sometimes erratic but of late had been regular. One AWW reported that for the past year the supply had been regular. In another AW there had been no food for eight days. The corn-soy blend is cooked in various ways- sweet or salty. One AWW said that "most parents and children do not like this food very much and claim that the children get diarrhoea when they eat it". They preferred the previously available CFTRI energy blend. The investigators tried the prepared food on several occasions, and found the palatability to be very varied, probably reflecting the care with which it had been prepared or the availability of fresh supplies.

On one occasion we noticed only about fifty children collecting the food, although the AWW said that they had cooked for eighty. We were unable to get a response as to what was done with the excess food.

Water is usually brought to the AW by the worker or her helper from nearby borewells. The program does not supply cooking fuel. Individual households contribute firewood in one of the villages. In another, the AWW and helper take turns going around the village to collect the children and in the process also collect firewood from different families. One AW helper said she has to collect the firewood herself, often from thorny bushes. All this consumes a considerable amount of time.

## MAHILA MANDAL

The Mahila Mandal is active in only 8 of 20 villages. The Gram Sevika conducts the mahila mandals and their activities. She first has a meeting with the women to talk to them about the activities and purposes of the MM and then selects 3 women who she



feels would be capable of representing the village. There is supposed to be not discrimination based on caste or economic status in selection to the MM.

According to the Gram Sevika, nutrition classes are conducted by her once a month in every village. A cooking class also gives women training in preserving of seasonal foods eg., papaya jam. In one AW we were given vadas to eat which were very tasty and according to the Gram Sevika used less oil. While we were there a class was being planned to teach women how to cook nutritious food using locally available ingredients. The classes also incorporate training in general cleanliness and hygiene and are 'compulsory' for mothers when the gram sevika visits once a month. How this is enforced is not clear, however.

One of the MM programmes is a tailoring class using a sewing machine. The mahila mandal collects fees from the trainees to pay the teacher. Women can get loans from the MM to eventually buy their own machines. In one village, although tailoring classes continue to be conducted, no one seemed very sure whether the women were able to generate any income by tailoring. In another village the women who have learnt tailoring make use of the sewing machine in the AW on an irregular basis.

Adult literacy per se is not one of the AW programmes. The 52 part radio programme for women's literacy which was supposed to be encouraged by the Anganwadis does not seem to be functioning here, and the AWWs did not seem aware of it.

Only in one village did we find detailed and neat notes kept by the AW teacher on the various activities she had conducted such as a health camp for women and nutrition classes.

#### REGISTERS MAINTAINED

Several registers have to be maintained at the Anganwadis, and this maintenance seems to occupy disproportionately large amounts of the time of the AW personnel. The reliability of the recorded information is also rather suspect.

Some of the registers are:

- Food cooked
- Stock received/used
- Cooking and nutrition classes for women
- No. of children present
- Record of immunizations
- List of medicines
- Medicines given to people
- Doctor's visit
- Illnesses and other problems
- Inspector's visits
- Growth charts
- Admission registers



- Attendance of staff
- Annual census of village for CDPO (includes no. of households, No. of people, their ages and occupations and so on.)

The general impression we have formed is that the main activity of the Anganwadis is handing out food supplements, which are not always well accepted. The AWWs are poorly prepared, have little back up, and a great deal of their time is taken up in paper work. Education and stimulation of the pre-school child is virtually non-existent. Community involvement essentially only consists of one individual providing some physical space or of donation of fuel by some families.

It is quite obvious from our experiences that the ICDS programme functions in a haphazard way. The training of Anganwadi Worker is inadequate, there is very little in-service training and hardly any supervision. The CDPO is busy with paper work and the Supervisors do periodic "inspection" but no supportive supervision and on the job training.

The accomodation is unsatisfactory and there are no toilet facilities at all.

The availability of food supplementation is erratic and senior anganwadi worker look at that as the main function of anganwadi worker, the centre remains closed when food is not available, rather than utilise the time for pre-school education and other activities. Often the food supplement is taken home and so one is not sure whether the receipient is consuming it, or there is sharing and whether it is just thrown away.

The other important activity - growth monitoring, seems meaningless because it is neither done regularly or accurately. Mostly the children 3-6 years are weigheed and far fewer number of younger children, in whom it is more important are weighed. Weighing is inaccurate in a large number of cases, and charting even worse. At no time does it serve as an education tool for the mother.

#### Evaluation of PHC and ANM services

The PHC is located at Sathanur village. It consists of four or five rooms, one or two of them being occupied by offices and storage. The first room one enters is usually packed with people in the mornings, jostling to be first in the non-existent line to see the doctor. Sometimes a woman or child with an intra-venous infusion in progress is to be seen lying in the back room, where there are also several desks and the staff conduct their paper work.

We were told by the doctor in charge that it had been upgraded to a minimum need PHC, and covers a population of over 61,000.



The PHC is staffed by one medical officer, a Lady Health Visitor (LHV) and other staff. The LHV supervises 8 Auxiliary Nurse Midwives (ANMs), who serve a total of 71 villages. Some of the ANMs have to cover as many as 14 villages. About 40 patients per day are seen at the PHC for out-patient care, and about 25 to 30 deliveries annually occur at the PHC. The facilities for antenatal care at the PHC are minimal. Weight and blood pressure can be checked, and urine for albumin. Haemoglobin levels cannot be checked, and for this the woman would have to be sent to Kanakapura. There is no labour room as such at the PHC, in fact there is not even an adequate toilet. Intra-venous glucose infusions can be given to a patient, or to a woman in labour, but no other interventions such as application of forceps can be performed here. Laparoscopic tubectomies used to be done by the medical officer at the local Traveller's Bungalow, but since a dispute has arisen with the staff there, this has been stopped and now women go to Kanakapura for tubectomy. Recently someone has donated three acres of land, so a new PHC building may be constructed - about Rs. one lakh needs to be collected from the public for this purpose. A maternity centre was sanctioned at M.T.Doddi, but no progress has been made as yet in setting it up.

Medications are in chronically short supply, and quite inadequate for the needs. Even iron and folic acid tablets cannot be dispensed except to pregnant women. A woman who is not pregnant cannot be given iron from the PHC, regardless of how anaemic she might be.

#### ANM services

Two ANMs serve the villages in the study area. They are both married women, who live in what are labelled the sub-centres at Achalu and Kadahalli. In actual fact, these are rented spaces, barely adequate for them to live in, and no patients are seen at these "sub-centres". One of the ANMs is responsible for 10 villages, the other for 9, and they are supposed to visit each village at least once a week. They walk to all the villages, and try to visit 2 or 3 neighbouring villages on one day, but feel very hampered by the lack of transport.

Their responsibilities, on paper, are very wide-ranging, but in fact they concentrate on family planning activities, immunization, and maternal and child health care. One says that older people in the villages ask her why she cannot provide any help to them, and resent the emphasis on MCH. Though they claim to know about all ill women and children, we found they were unaware of at least two seriously ill children in their areas. They have adequate supplies of iron/folic acid tablets, chloroquine and Vit. A but feel the lack of other drugs like paracetamol, ORT packets and medication for worms and scabies. They feel the supplies of medicines at the Anganwadis are under-utilized, and should be made available to them.

They claim to make regular antenatal visits, and to examine all pregnant women and give them appropriate advice, but feel the women do not take it. They attend deliveries when they are called by the families, and one of them claimed to attend about



6-8 per month. She keeps injections of methergine at hand, to deal with emergency post-partum bleeding. They say they work with the dais, both trained and untrained, who get no other supervision. They also say they make routine post-natal visits - daily for about 10 days, and once a week for the first two or three months. However neither seemed aware that the lactating woman should be given iron supplements.

A large number of registers have to be maintained by the ANMs, and they feel an inordinate amount of their time is spent on paper work. The accuracy of some of these records is questionable, as one of the ANMs had not recorded a single infant or neonatal mortality in the past 15 months.

The kind of service given by these two women varies considerably in quality, as is stated even by the residents of the villages. Even the one who is very conscientious and hard-working, however, is hampered by lack of supplies, support services and on-going training. To some extent, they seem to share the beliefs and prejudices of the people in the area, which makes them sometimes less effective than one might wish.

The health services suffer from the malaise of inadequate and unsuitable accommodation, infrequent and erratic supplies (the two ANMs had not received any supplies for two years) lack of mobility and poor supervision. In spite of their problems, some ANMs have a great deal of motivation and continue to do their best. Even though their job responsibilities include MCH and family health, their main obsession is with family planning targets because that is the only aspect they are questioned about in their monthly meetings. Performance below allotted targets is taken seriously and the ANM is harassed in all manner of ways. Her status in the eyes of the villagers too suffers as they look upon her mainly as a family planning functionary. Besides she has nothing to offer in the way of medication etc for any illness in the family because she has no supplies. In time, she ceases to consider the morbidity in the villages as her responsibility, and the families either go to the PHC or to private doctors and chemists.



## Appendix 5.1

### FOODS AVOIDED DURING PREGNANCY

# and % of women reporting avoidance

	No.	%
Sweet Potato	122	(20.7)
Eggs	94	(16.0)
Drumstick leaves	54	(9.2)
Coconut	19	(3.2)
Groundnuts	17	(2.9)
Fish	3	(0.5)
Pumpkin	3	(0.5)
Ragi Roti	2	(0.3)
Horse Gram	2	(0.3)
Rice	1	(0.2)
Bovine Colostrum	118	(20.0)
Sesame	81	(13.8)
Papaya	23	(3.9)
Banana	18	(3.1)
Jaggery	5	(0.9)
Fried Gram	3	(0.5)
Guava	2	(0.3)
Jack Fruit	2	(0.3)
Spices	1	(0.2)
Potato	1	(0.2)







## APPENDIX 5.2 Additional tables

Table 5.2.1 Time of starting antenatal care by caste of woman

	1 - 3	3+ - 6	6+ - 8	8+ - 9	Total
Self Employed	1	3	4	-	8
Wage Labour	13	43	20	4	80
UPFW	27	47	15	2	91
House Wife	2	-	-	-	2
SC/ST	15	45	17	2	79
Others	28	48	22	4	102
Total	43	93	39	6	181

Table 5.2.2 Number of IFT taken during pregnancy by work category

Wk cat of IM	Total IFA tablets taken					Total
	1-30	31-60	61-80	>80	DK	
SE	2 (33.3%)	3 (50.0%)	-	1 (16.7%)	-	6 (4.3%)
WL	37 (54.4%)	13 (19.1%)	2 (2.9%)	16 (23.5%)	-	68 (48.6%)
UPFW	39 (60.0%)	18 (27.7%)	1 (1.5%)	6 (9.2%)	1 (1.5%)	65 (46.4%)
HW	-	1 (100%)	-	-	-	1 (0.7%)
SC/ST	31 (46.3%)	19 (28.4%)	1 (1.5%)	16 (23.9%)	-	67 (47.9%)
Others	47 (64.4%)	16 (21.9%)	2 (2.7%)	7 (9.6%)	1 (1.4%)	73 (52.1%)
Total	78 (55.7%)	35 (25.0%)	3 (2.1%)	23 (16.4%)	1 (0.7%)	140 (100%)







Table 5.2.3 Time of initiation of breast feeding

	Not fed	1 - 12 hours	13-24 hours	25-48 hours	> 48 hours	Total
Self Emp.	-	-	2	1	10	13
Wage Lab.	1	7	26	35	72	141
UPFW	1	5	22	38	74	140
Housewife	-	-	2	-	5	7
SC/ST	1	5	27	26	63	122
Others	1	7	25	48	98	179
No.Schlg.	2	11	45	61	143	262
Some Schlg	-	1	7	13	18	39
Total	2	12	52	74	161	301



Table 5.2.4 BCG Received (All ages)

SC/ST N=122	82	67.8%
Others N=179	142	79.3%
SE N=13	8	61.5%
WL N=141	102	72.3%
UPFW N=140	108	77.7%
HW N=7	6	85.7%
No.Sclg.=262	190	72.8%
Some Sclg.=39	34	87.2%

**BST1 Received (IC> 18 months)**

SC/ST N=73	2	2.9%
Others N=110	17	16.5%
SE N=9	2	22.2%
WL N=88	6	6.8%
UPFW N=74	11	14.9%
HW N=1	-	-
No.Sclg.=151	16	10.6%
SomeSclg.=3	3	14.3%

**Measles Received (IC> 9 months)**

SC/ST N=110	26	24.5%
Others N=160	37	24.8%
SE N=12	3	25.0%
WL N=127	32	25.2%
UPFW N=112	27	24.1%
HW N=4	1	25.0%
No.Sclg.=221	46	20.8%
SomeSclg.=34	17	50.0%



OPV1/DPT1 Received (IC> 2 months)

SC/ST=122	89	73.6%	88	72.1%
Others=179	147	82.1%	145	81.0%
SE=13	9	69.2%	9	69.2%
WL=141	109	77.3%	108	77.3%
UPFW=140	111	79.9%	110	79.1%
HW=7	7	100%	6	85.7%
No.Sclg=269	204	78.2%	201	77.0%
Some Sclg.=39	32	82.1%	32	82.1%

OPV2/DPT2 Received (IC> 3 months)

SC/ST=1212	81	67.0%	82	67.8%
Others=178	133	74.7%	133	74.7%
SE=13	8	61.5%	8	61.5%
WL=141	98	69.5%	99	70.2%
UPFW=138	101	73.2%	102	73.9%
HW=7	7	100%	6	85.7%
No.Sclg=260	185	71.2%	185	71.2%
Some Sclg.=39	29	74.4%	30	76.9%

OPV3/DPT3 Received (IC> 4 months)

SC/ST=120	60	50.0%	59	49.2%
Others=176	110	62.5%	111	63.1%
SE=13	7	53.9%	7	53.9%
WL=140	74	52.9%	74	52.9%
UPFW=137	84	61.3%	85	62.0%
HW=6	5	83.3%	4	66.6%
No.Sclg=257	146	56.8%	146	56.8%
Some Sclg.=39	24	61.5%	24	61.5%







APPENDIX 5.3

BREAST MILK INTAKE IN INFANTS AND CHILDREN

Age Group (Months)	Mean Intake of Breast Milk (g/day)	Derived from Breast Milk Protein (g/day)	Calories /day
0 - 2	530	6	360
3 - 4	640	8	430
5 - 6	730	9	490
7 - 8	660	8	440
9 - 10	600	7	400
11 - 12	525	6	350
13 - 15	515	6	350
16 - 18	440	5	300
19 - 24	400	5	270
25 - 36	425	5	280
37 - 43	345	4	230

Ref: Rno.S.K., M.C.Swaminathan, S.Swamy, V.N.Patwardhan,  
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# APPENDIX 5.4

## Diet in the post-natal period. sample of 6 women

	Woman 1	Woman 2	Woman 3	Woman 4	Woman 5	Woman 6
immed	-	-	Water, Ragimudde with upsaru and averekaalu	Coffee	Coffee with jaggery Rava with jaggery 1c Kanji	Rava kanji with jaggery no milk
D-1	Rava Kanji	Rava Kanji F10 with jaggery 1/2 achu F6x2 Coffee F10 x 1	Rice with jaggery and garlic x2 Coffee x 2	Rice & Rava kanji with jaggery 2C Sappe Anna 1C raw Coffee x 3	Kanji 1c x 2 Coffee 1c x 2	
3	'Soppe anna' (1pav. uncooked x 2/day)					Rava k.1/2 ltr Milk 2 c (could have more milk but cannot afford)
4		F10 coffee x 1 'Sappe anna' F6 x 2 Water F9 x 2				
5						Rice/Oil/Jaggery Sigdi meenu +occasionally ri Chicken x 1-2 po
10				Coffee & bread x 1 Belesaaru & rice x2 Veg (no potatoes Meat x1q 4-5 days)	Sappe anna x 3	+occasionally ragi & chicken x 1 - 2/ mo
11		Ragi mudde 1/2 x 2 Rice F6 x 2 Saaru F12 x 2 Coffee F10 x 1			Saaru (mensu/titi) Rice Chicken q 3-4 d	
12			Rice & Sigdi saaru} x 2 or mensu saaru }			



# APPENDIX 3.4

13 Sigdi saaru  
mensu saaru  
Rice

Diet in the post-natal period. sample of 5 women

3 wk Regular diet

Regular diet\*  
(Usually Rice/mensin  
saaru or sigadi saaru  
till 3 mo. but she  
"eats what she pleases"

1 mo

Reg. Diet

2 mo

Reg. diet

3 mo Regular diet

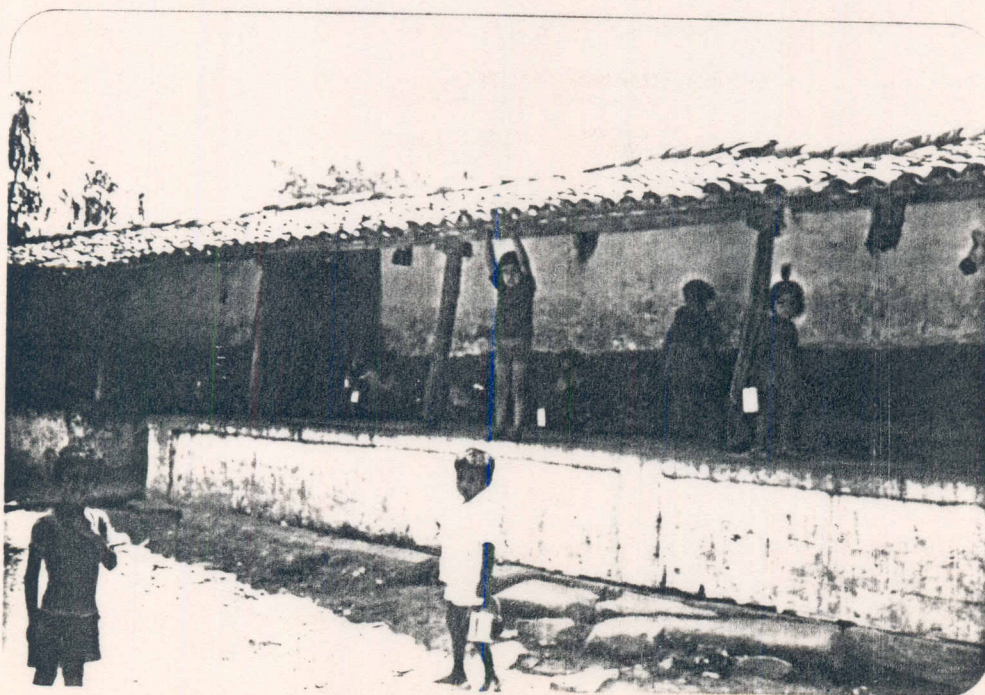
Regular diet

\* Advised by ANM to avoid  
brinjal, potato, pumpkin,  
drumstick leaves, chicken  
and dry fish





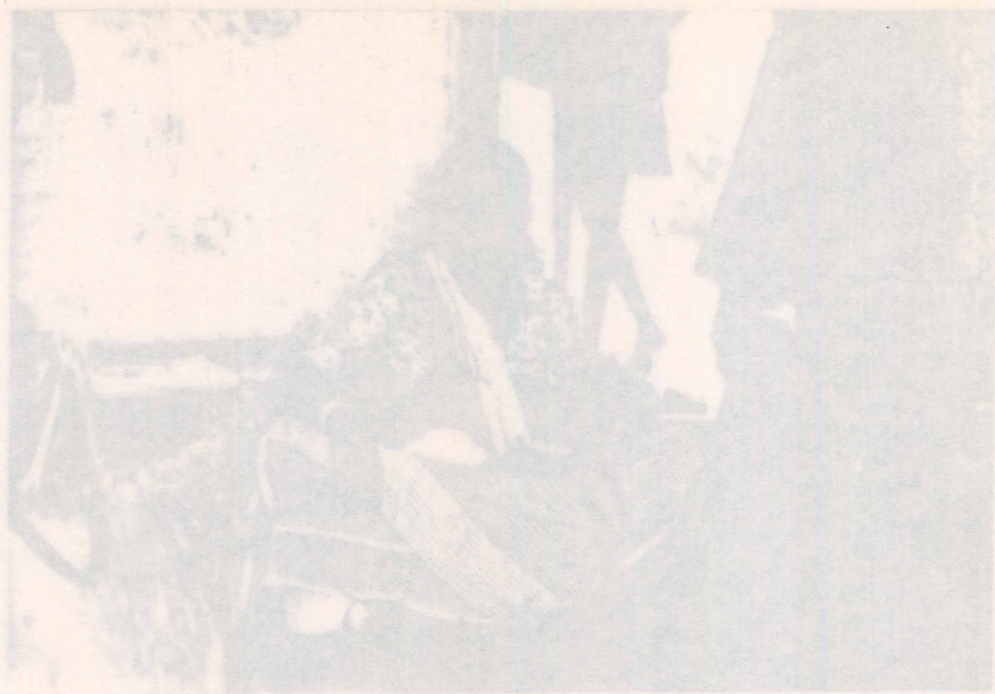
Breast feeding twins



An Anganwadi

CH 5





Breast feeding twins

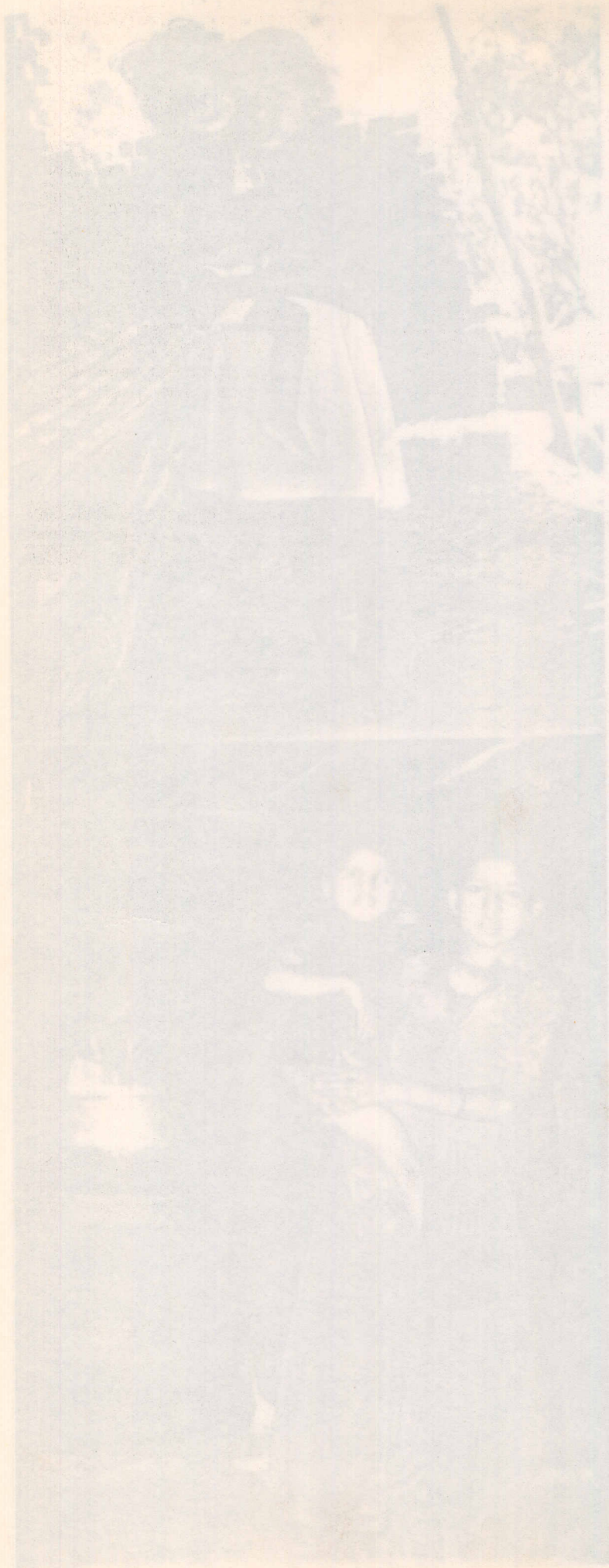


At Anguilla











## Chapter 6

## LINKAGES BETWEEN WOMEN'S WORK AND CHILD HEALTH

6.1	INTRODUCTION.....	2
6.2	NUTRITIONAL STATUS.....	4
6.3	DIETARY ADEQUACY.....	9
6.4	MORBIDITY.....	10

Land. May not be operative as caste per se, but through intermediate factors such as income and land-holding. As we have already seen, relatively few of the SC/ST households seem to own land.

Land-holding may affect the stability of the family's food supply, and also be directly related to income.

Education. Several studies indicate a positive relationship between the mother's education and various indicators of child well-being. This seems to emerge in this study as well, in spite of the small sample of women with some schooling.

Child Characteristics. Such as the sex and the age of the child are important determinants of nutritional status and health. These factors also influence parental behaviors.

Household structure. The total number of children under five years of age in the household and total household size were selected for inclusion in the models. Other variables representing household structure were also tried in the model.

Food expenditure per capita was used as a proxy for household income. Seasonal and yearly income were tried in the models.



## 6.1 INTRODUCTION

The purpose of this study was to identify the links between the types of work that women engage in and the well-being of their children. There are several possible measures of well-being, such as nutritional status of the child, caloric intake as percentage of the RDA, number of episodes of morbidity and adequacy of response to the child's illness. In the regression models that follow, we have used several of these outcomes to test our hypotheses. Along with the mother's work category, we felt that several other background variables, as mentioned below, could have a significant effect on the child's well being, and we have used them in our regression models. Table 6.1 presents descriptions and basic statistics on these variables.

Caste May not be operative as caste per se, but through intermediate factors such as income and land-holding. As we have already seen, relatively few of the SC/ST households seem to own land.

Land-holding may affect the stability of the family's food supply, and also be directly related to income.

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## 6.1 Descriptive Statistics for socio-demographic characteristics

Name	Description	Sample statistics (SD)
Caste	Dummy variable for caste (1= scheduled caste)	40 % ( - )
Land-holding	Categorical variable (1 =landless, 2=marginal, 3=small farmer)	1.84 (.65)
SE 1	Dummy variable SE=1	.03 (.18)
SE 2	"	.02 (.15)
WL 1	Dummy variable WL=1	.35 (.48)
WL 2	"	.27 (.45)
IMEDUC	Dummy variable for educ of Mother. (Some Schooling=1)	1.18 (.52)
HHSIZE	Total number of HH members	5.59 (1.85)
UNDER5	% of HH members <5 yrs of age	31.7 (12.3)
SEX	Sex of Index Child (Male=1)	55% ( - )
AGEIC1	Age of Index Child at the time of anthropometry Round I	28.3 (12.5) mos.
AGEIC2	" Round II	34.8 (12.5)
FDPC1	Food Expenditure/capita Rnd I	703.5 (256.6)
FDPC2	" Round II	661.8 (264.3)
TOTAMT1	Index Mother's Income Round I	109.3 (322.9)
TOTAMT2	" Round II	76.3 (389.1)
WAGE1	Sum of SE & WL time Round I	97.8hr (207.5)
WAGE2	" Round II	71.7 (181.8)
PRODT1	Sum of WAGE1 & UPFW time Rd.I	474.9 (393.1)
PRODT2	" Round II	380.9 (361.3)
WKTIME1	Sum of PRODT1 and time spent on marginal economic and household chores Round I	1289.2 (438.7)
WKTIME2	" Round II	1242.6 (387.2)

NOTE: these statistics were computed on the completed sample of 291 households. For analyses in individual rounds, the means could vary slightly because of changing sample sizes.



## 6.2 NUTRITIONAL STATUS

The first child welfare outcome we evaluated was the nutritional status of the index child, as determined by Z-scores for weight for age and height for age.

**Table 6.2. Nutritional Status Outcome Variables:  
Descriptive Statistics**

Outcome variable	Round I mean (SD)	Round II mean (SD)
WAZ	-2.40 (.91)	-2.61 (.92)
HAZ	-1.76 (1.26)	-2.02 (1.20)

Table 6.3 shows the results of a multivariate analysis of nutritional status as measured by weight-for-age Z score (WAZ) by round, using the work category of the mother in that round.

<b>Table 6.3 Multivariate analysis of women's work and child well-being. Dependent variable: WAZ</b>				
Independent variables	Round I B (SE)		Round II B (SE)	
Wage labour in round	-.135	.122	.123	.128
Selfemployed in round	.022	.292	-.214	.356
Caste	-.322	.121 **	-.331	.118 **
Landholding	-.017	.094	-.112	.094
Education IM	.211	.108 +	.198	.106 +
HH size	8.20E-04	.038	.023	.037
Total # <5 yr.	-.011	.005 *	-.008	.005
Sex of IC	.113	.110	.249	.113 *
Age of IC	-.010	.005 *	-.003	.005
Tot pc food exp	.916E-04	2.324E-04	5.444E-04	2.338E-04 *
Constant	-2.05	.487	-2.80	.516
Model R <sup>2</sup>	.099		.088	
statistics F	2.79		2.531	
sig	.003		0.006	
df	253		261	

+ p < .1      \* p < .05      \*\* p < .01



Caste and the index mother's education show a consistent and significant effect in both rounds. The total number of children under five and the age of the index child seem to show a significant effect on WAZ in Round I, but in Round II are no longer significant, although the direction of the coefficients remain similar. The age of child which has a smaller impact in Round II than in Round I. This could be due to the fact that all children are approximately 6 months older and thus more of the children in the second round are past the stage when the highest levels of malnutrition are reported. Sex of the child as well as per capita food expenditure are significant in Round II though not in the earlier round. It would appear that as children age, gender begins to have an effect on weight. This is consistent with the commonly reported finding of largest gender effect in morbidity emerging late in the first year. The reason for per capita food expenditure being significant only in the second round may be the fact that children are older in the second round, less are breast feeding and thus we see the effect of expenditure on food. The effect of the percent of household members less than 5 years may be related to the age of the child, in that these could be considered potential competitors for resources such as the mother's time or family food. As the child gets older, these 'competitors' have less effect on nutrition and thus on weight.

We also did similar analyses using the annual work category, but found no difference.

A regression model adding quality of the environment and childcare time as independent variables shows no effect of these two in either round. We felt that the presence of additional care-takers who can assist the mother with child care is likely to have an effect on the well-being of the child. Our analysis using the number of additional women over 15 years of age in the household does not bear this out. Caste, landholding, mother's education, the number of children under five, the sex of the child and the per capita food expenditure continue to be significant in most specifications.

This analysis of weight-for-age rejects our initial hypothesis that work category is an important determinant of nutritional status. The work categories in the model are not significant and do not show any consistent relationship with the dependent variable across rounds. This finding confirms the descriptive results presented in Chapter 5 which also did not find that work category explained differences in nutritional status between the children in this sample.



Since the work categories did not appear to be determinants of WAZ, we had thought that perhaps exploring other important attributes of women's work, such as time spent at work, time away from home or income generated, might demonstrate such linkages.

To test the effect of work time, we performed additional analyses, using

- a) 'paid time' which we arrived at by summing up the total time spent in that round on self-employment and wage labor.
- b) 'Productive time' which sums up the total time spent in that round on self-employment, wage labour and unpaid family work and
- c) 'Work time' which includes productive time plus time spent on household chores.

The analyses of work time are shown in Table 6.4. None of the time variables show a significant effect on WAZ and the relationship is not consistent across rounds. We are led to conclude that time spent on work is not a key determinant of growth.

**Table 6.4. Impact of Women's Work Time on WAZ**

	Round I B (SE)	Round II B (SE)
Model 1: Paid time (*)	-3.02 E-04 (2.66 E-04)	8.21 E-05 (2.99 E-04)
Model 2: Productive time (*)	-9.94 E-05 (1.41 E-04)	-8.58 E-05 (1.55 E-04)
Model 3: Work time (*)	-6.66 E-05 (1.40 E-04)	2.04 E-05 (1.45 E-04)

(\*) model adjusts for age and sex of child, children under 5 in household, household size, mother's age, food expenditure per capita, caste and land-holding.

One of our hypotheses is that the income generated by the woman may be used for inputs which improve general household well-being and in particular that of the child. Table 6.5 displays the results of the analysis when we included mother's earnings as one of the independent variables.



**Table 6.5 Multivariate analysis of women's work and child well-being** Dependent variable: WAZ

Independent variables	Round I		Round II	
	B	(SE)	B	(SE)
Caste	-.372	.121 *	-.290	.122
Landholding	-.037	.010	-.082	.098
Education IM	.209	.108 +	.199	.110 +
HH size	.007	.038	.022	.039
Total # <5 yr.	-.011	.005 *	-.007	.006
Sex of IC	.115	.113	.274	.117 *
Age of IC	-.012	.005	-.003	.005
Total pc food expenditure	1.78E-04	2.40E-04	5.32E-04	2.47E-04*
IM cash earned	4.41E-04	1.84E-04	1.91E-04	1.45E-04
Constant	-2.00	.501	-2.884	.546
Model	R <sup>2</sup>	.097	.084	
statis-	F	2.917	2.520	
tics	sig	.003	.009	
	df	244	248	

+ p < .1    \* p < .05    \*\* p < .01

The effect of women's earnings is not significant, although it is positively related to WAZ in Round I and Round II. The magnitude of the effect is stronger in Round II. This effect could mirror the relationship observed for food expenditure. It is possible that older children benefit more than younger children from increased household resources. This hypothesis is tested directly in the analyses using dietary adequacy shown below.

Analyses were also done using height-for-age Z score (HAZ) as a dependent variable. HAZ differs from WAZ in that it measures chronic nutritional deprivation which manifests in stunted growth, while WAZ could reflect acute events. All analyses carried out for WAZ were also done for HAZ. The regressions using work groups are shown in Table 6.6. None of the work related variables had any significant impact. Again we see that caste is a strong determinant of HAZ in both rounds. Age is also strongly significant in Round I and remains significant in Round II though not as strongly. Sex of the child, education of the mother and per capita food expenditure are significant in round II but not in round I. These patterns resemble those observed in analyses of WAZ.



**Table 6.6 Multivariate analysis of women's work and child well-being**  
Dependent variable: HAZ

Independent variables	Round I		Round II	
	B	(SE)	B	(SE)
Wage labour in round	.008	.161	.101	.164
Selfemployed in round	-.320	.387	-.224	.455
Caste	-.674	.160**	-.598	.152**
Landholding	.024	.124	-.091	.120
Education IM	.138	.143	.306	.136**
HH size	4.57E-04	.050	.004	.048
Total # <5 yr.	-.008	.007	-.009	.007
Sex of IC	.231	.146	.306	.145*
Age of IC	-.022	.006**	-.009	.006
Per cap food exp.	1.99E-04	3.08E-04	6.79E-04	2.99E-04*
Constant	-1.071	.645	-2.028	.659
Model R <sup>2</sup>	.140		.120	
statistics F	4.110		3.55	
sig	.000		.000	
df	253		260	

\*p < .1    \*\*p < .05    \*\*\*p < .01



### 6.3 DIETARY ADEQUACY

We have also done the multivariate analyses with the dependent variable being the caloric intake of the index child, measured as percent RDA, and the same series of independent variables as were used for WAZ. These are shown in Table 6.7 and Table 6.8.

Table 6.7 Multivariate analysis of women's work and child well-being				
Dependent variable: Caloric intake				
Independent variables	Round I		Round II	
	B	(SE)	B	(SE)
Wage labour in round	9.498	4.343*	11.173	3.431**
Selfemployed in round	6.194	9.374	10.869	11.327
Caste	3.333	2.139	-.440	1.719
Landholding	3.457	3.126	-3.253	3.322
Education IM	-.781	4.005	-3.431	3.482
HH size	1.086	1.320	-.611	1.145
Total # <5 yr.	.078	.190	-.113	.153
Sex of IC	3.618	3.953	-3.253	3.322
Age of IC	.468	.165**	.421	.134**
Total pc food exp.	.010	.009	4.82E-04	.007
Constant	9.680	19.168	59.181	15.353
Model R <sup>2</sup>	.093		.117	
statistics F	1.813		2.904	
sig	.061		.002	
df	176		220	

\*p < .1    \*\*p < .05    \*\*\*p < .01

WL is positively related in both rounds and is significant, as is age of index child.



In Table 6.8 the mother's earnings replace work category in the independent variables. The model is not significant for caloric intake in round I (signif.F .1272). In round II mother's earnings are significant related to caloric intake, as also is age of the child.

**Table 6.8 Multivariate analysis of women's work and child well-being**

Dependent variable: Caloric intake

Independent variables	Round II	
	B	(SE)
Mother's Income	.036	.011**
Age of IC	.343	.140*

\*p < .05    \*\*p < .01

A possible interpretation of these findings is that wage labour, which results in cash earnings has a positive effect on the child's caloric intake, as do cash earnings per se.

#### 6.4 MORBIDITY

The following section gives the results of logistic regressions on the morbidity data for the IC. We looked at 3 different dependent variables -

**Table 6.9**

Sick Round 1	Whether the child was ever reported sick in Rd.1,2 or 3.
Sick Round 2	Whether the child was ever reported sick in Rd.4,5 or 6.
Diarrhoea 1	Whether the child had a reported episode of diarrhoea in Rd.1, 2 or 3.
Diarrhoea 2	Whether the child had a reported episode of diarrhoea in Rd.4, 5 or 6.
Upper Respiratory Infection 1	Whether the child had a reported episode of upper respiratory infection in Rd.1,2 or 3.
Upper Respiratory Infection 2	Whether the child had a reported episode of upper respiratory infection in Rd.4,5 or 6.



1. Stepwise regressions were first tried to look at the sorts of variables which were associated with the probability of illness. In addition to the variables used in the WAZ regressions, a variable for quality of the environmental hygiene was used, and the results are shown below.

**Table 6.10 Morbidity**

<u>Independent variables</u>		<u>Odds ratio</u>
<b>Ever sick in Round</b>		
Round 1	Age	.97
	Sex	1.76
Round 2	No variables related	
<b>Diarrhoea in Round</b>		
Round 1	Age	.94
Round 2	No Variables related	
<b>Upper Resp. Infection in Round</b>		
Round 1	Age	.98
Round 2	Mother's education	1.8

This tells us that older children are less likely to be sick, and that boys and the children of educated mothers are more likely to be sick. We must keep in mind that our dependent variable is reported illness rather than clinically documented illness. It is possible that we are observing reporting bias here, with women reporting more illness for boys than girls, and with educated women more likely to report illness than those with no schooling.



## 2. Regression using ENTER

The independent variables used here are those which might be relevant for testing hypotheses regarding women's work.

Table 6.11 Morbidity - Ever sick in Round

Variables	Round I		
	B	SE	Odds Ratio
Caste	-.148	.301	.863
Sex	.556	.280*	1.743
Education of IM	.270	.307	1.310
Eco.classn of IM	-.180	.226	.836
Age of IC	-.031	.011**	.970
Self Employed	-.661	.737	.516
Wage Labourer	.061	.301	1.063
FDPC1	-.001	.001	1.000
Constant	1.046	.805	

\*p < .05 \*\*p < .01

Here again we see that the sex, age of the child have a significant effect on the probability of ever being sick in Round 1, 2 or 3. Nothing is significantly related in Round 3, 4 and 5. Women's work has no effect (in spite of the odds ratio of .516 for self employment, this is not significant, since the number of women in the SE group is very small).



Table 6.12 Diarrhoea Reported in Round

Variables	Round I		
	B	SE	Odds Ratio
Caste	-.468	.400	.626
Sex	.739	.376*	2.093
Education of IM	.219	.321	1.245
Eco.classn of IM	-.557	.297+	.573
Age of IC	-.072	.018**	.930
Self Employed	.322	.919	1.380
Wage Labourer	.181	.403	1.199
FDPC1	.001	.001	1.000
Constant	.167	.951	

\*p < .1    \*p < .05    \*\*p < .01

In the first three rounds, age and sex are significant, landholding marginally significant. In the latter 3 rounds, (not shown) only the age of the child is significant with older children less likely to report diarrhoea.



Table 6.13 Upper respiratory infections reported

Variables	Round I		
	B	SE	Odds Ratio
Caste	-.388	.365	.679
Sex	.213	.345	1.237
Education of IM	.631	.286*	1.879
Eco.classn of IM	.166	.273	1.181
Age of IC	-.023	.014+	.977
Self Employed	-5.569	16.266	.004
Wage Labourer	.825	.369*	2.283
Constant	-2.906	.971	

+p < .01 \*p < .05 \*\*p < .01

Only age is significant in both rounds, the odds ratios being .977 in both. No other variable is significant in round 1. In round 2, the mother's education, wage labour in the round and per capita food expenditure also enter into the equation. Being a wage labourer is associated with a greater odds (2.28) of having respiratory illness in the round. It should be noted that this effect is not consistent with the previous round, where WL appears to be protective.

The same regressions were done with mother's earnings, and coefficients of the earnings variable as shown in Table 6.14

Table 6.14 Morbidity - independent variable Mother's Earnings

	B	SE	Odds Ratio
Total Amt. 1	-3.1E-05	.0004	1.0000
Total Amt. 2	.0007	.0009	1.0007
Total Amt. 1	.0006	.0005	1.0006
Total Amt. 2	.0016	.0014	1.0016
Total Amt. 1	-.0004	.0006	.9996
Total Amt. 2	.0013	.0011	1.0013

There is clearly no significant impact. Most of the time the effect is positive, i.e. more earning, more illness.

These analyses of morbidity do not give much insight into the determinants of illness in the children studied.



In the context of the present study we are unable to satisfactorily demonstrate any significant effect of women's work categories or of the mother's work time on the child well-being variables studied above. We do see a fairly consistent effect of various socio-economic, household and individual variables such as caste, mother's education, household size, the number of children under five, the per capita food expenditure and the age and sex of the child. It is possible that the effect of poverty and the generally disadvantaged status of our study population is so strong that it masks the relationships with women's work we had thought to find.



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CHAPTER 7

CASE STUDIES OF THE WOMEN

SEE APPENDIX



CHAPTER 7

CASE STUDIES OF THE WOMEN

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## Chapter 8

## IMPLICATIONS FOR POLICY AND FUTURE RESEARCH

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## 8.1 INTRODUCTION

This study has taught those of us involved in it a great deal, predominantly about the complexity of the issues we have attempted to investigate. Several areas present themselves for further elucidation and many aspects seem to warrant recommendations for future policy or rethinking of existing policy. The policy recommendations that emerge from our observations and findings pertain both to issues concerning women's work as well as to other aspects of the lives and surroundings of the women and children in our study population. While these last may not have immediate relevance to the study, we have been struck by the effect, usually adverse, that they have on the well-being of the study population and feel it incumbent upon us to draw attention to these observations and make recommendations based upon them.

## 8.2 POLICY RECOMMENDATIONS

### 8.2.1 Child care and Health care issues:

We believe that these families provide the best care they are capable of for their children. Nevertheless, thanks to the conditions under which they live, this care is often less than adequate, and needs improvement, at the levels of both the community and the household. The health of our study population is still far from adequate. Children are malnourished and inadequately immunized, and the meagre financial resources of the family are often spent on inappropriate health care.

- There is a need for adequate childcare facilities such as creches, so women can work without jeopardizing the well-being of their children, or having their older female children drop out of school to take over the mother's responsibilities in the household.

Many health-related services exist, but function sub-optimally. The functioning of these services needs to be documented, and reasons for malfunction and under-use by the population explored. Corrective action, adequate supervision, on-going training, rethinking of schemes, avoidance of over-lapping in the areas of different schemes are all crucial if the target populations are to truly benefit.

We have come across several traditional practices which are probably beneficial. These must be identified, and health professionals educated to respect and use these positively.

### 8.2.2 Women's work issues

Women in our study were largely UPFW, occasionally doing wage labour. When they were employed as WL, it was for short periods of time, and for low wages (about a third of what men were paid). Tasks associated with all kinds of work, including house-work, were



often time-consuming and probably decreased the amount of time the woman could spend with her children. Some activities which are intended to benefit women by increasing their income, such as sericulture, actually increase the woman's work-load, while the income accrues largely to the male members of the family.

- Women's productive role (including the market equivalent of marginal economic work, childcare and housework) should be appropriately identified. Women should be made aware of the value of their own activities, as should the other members of the household and other agencies involved in evaluating women's roles.

- Adequate wages for all workers must be ensured, and women paid on par with men.

- Appropriate income-generating schemes should be introduced, with safe-guards to ensure that the benefits and income are available to the women who have done the work. The types of self-employment that seem most beneficial to the women and best suited to their constraints of time and other work responsibilities should be identified.

- There is an urgent need for schemes to ensure easy availability of water and fuel so that women do not have to travel long distances to obtain these.

- Existing technologies such as the use of smokeless chulhas to reduce smoke and economize on fuel and the generation of bio-gas need to be far more widely disseminated.

#### **8.2.3 Financial status**

We have been particularly struck by the enormous problems encountered by these families due to their state of chronic and constantly increasing indebtedness to local money lenders. Schemes such as the Grameen banks, which make loans available at an affordable rate of interest, would make a tremendous difference to the financial status of the household.

#### **8.2.4 Education**

There is probably no need to belabour the positive effect of education, especially education for women, in improving the various socio-economic outcomes in an area. Education increases the age at marriage and thus delays the first pregnancy resulting in better pregnancy outcome, lower rates of mortality in pre-school children and ultimately a smaller family size. The ninety districts with a CBR above 39 which have been identified by government for extensive family planning inputs have two other parameters in common - low age at marriage, low female literacy and high infant mortality rate. The lack of schooling and the drop-out rates in the study population are very high, and education for all, children as well



as adults, desperately needs to be stressed, especially for the girls. The reasons for the high drop-out rates are well known, and many suggestions made to avoid this - for instance having creches attached to schools so the younger children can be cared for while the older sibs attend school, adapting the school year to suit the needs of the agricultural community. These innovative schemes of education need to be put into effect. The type of education has to be relevant to the needs of the community, and not a thoughtless imparting of inappropriate information and bestowing of degrees that only serve to alienate the student from his or her community.

#### **8.2.5 Caste**

It is deplorable that discrimination based on caste still exists and appears to exert a discernible effect on the well-being of the population. Identification of the areas of discrimination and positive reinforcement of the status of the scheduled castes and tribes is an urgent need.

#### **8.2.6 Alcohol use**

The abuse of alcohol by the men in these poor families introduces a severe strain on family finances. The issue of restriction of sale of alcohol needs to be explored. As is obvious in the Andhra Pradesh anti-alcohol women's agitation, the vested interests are a strong lobby, and will not be easily defeated.

### **8.3 IMPLICATIONS FOR FUTURE RESEARCH**

The question of women's work and its effect on the well-being of children is an important one, but few relationships emerge from the present study. Larger and less homogeneous samples might help us better evaluate the question. Further work needs to be done to address this and several other problems.

What does work mean to these women? Is it something they choose to do, and if so what is their motivation? Is it simply the need to supplement the family income and thus survive, or is there some additional benefit and satisfaction in working? These are questions which are hotly debated by those involved in research on women's work - and, we suspect, poorly understood.

The whole area of shifts in women's occupations must be better evaluated - the causes for these shifts, whether they are a coping strategy that is best suited to these women's lives, or a measure of the marginal circumstances in which they struggle to survive.

There is an urgent need for the evaluation of the adequacy of existing child-care arrangements in these households, the effect of changes such as the increase in nuclear families on these arrangements, the extent to which the burden falls on other siblings, and a testing of possible models for better child-care



supports.

The question of a woman's decision making role in the household and autonomy conferred by her being an income earner is one we have not been able to explore except to some extent in the case-studies. A sensitive exploration of these issues is certainly warranted.

A host of issues remain to be explored in the area of women's work and child well-being, of which the questions above are only a small part. This is such a critical issue, in all societies and regions, that it must continue to be the focus of keen attention and meticulous investigation.



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