



RANCHI LOW BIRTH WEIGHT PROJECT

Baseline Survey Summary Report

Krishi Gram Vikas Kendra
Child In Need Institute
Social Initiatives Group, ICICI Bank

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Baseline Survey Summary Report, October 2006

EXECUTIVE SUMMARY

The Ranchi Low Birth Weight Project is an action research project which uses a life cycle based intervention strategy to reduce the incidence of low birthweight (less than 2500 grams) in two blocks of Ranchi District, Jharkhand, India. The project focuses on breaking the intergenerational cycle of low birth weight by facilitating communities to undertake appropriate health behaviours and practices, and by strengthening the public health system to provide appropriate and timely health care. The project comprises of interventions at two levels the community and the public health system. The community based interventions include a hamlet level community health worker (*Sabiyya*) and Village Health Committees who act as agents of community mobilisation by undertaking behaviour change communication, preventive and promotive care and case management in the area of maternal and child health. There is also a focus on ensuring delivery of mandated health services and also linking the communities with the requisite services and systems. The project envisages matching the increased demand generated by these community based activities by strengthening the public health system to ensure supply of mandated primary health services.

A baseline study was conducted before starting the interventions to assess the status of maternal and child health in four blocks: Angara, Silli, Sonahatu and Mandar (two intervention and two comparison blocks respectively). The study covered 195 villages and 72 subcentres in Silli, Angara, Mandar and Sonahatu. The data was collected from January to July, 2004. The primary methods of data collection included household, antenatal care and youth surveys. Fifty seven focused group discussions were also conducted to understand the knowledge, attitudes, behaviours and practices related to maternal and child health and nutrition. The total population covered during the study in the four blocks was 20,396.

The study provided important socio-economic and demographic information. The majority of the population in the four blocks belonged to the Hindu religion (62 percent) followed by Sarna (a tribal religion) at 30 percent. Scheduled Tribes and Other Backward Classes were predominant at around 40 and 45 percent respectively. Majority of the houses (80 percent) were *kaccha* houses, made of mud and thatch. Ninety six percent of the population did not have access to toilet facilities and 36 percent did not have a separate room in the house that could serve as a kitchen.

A total of 996 pregnant women in their third trimester were recruited for the antenatal cohort study from the 195 sampled villages. Of these 996 women, only 830 were interviewed after childbirth.

More than half of the women (ever-married women in the age group of 15-49 years) in each of the blocks were illiterate. The women were largely involved in agricultural labour (47.9 percent) or were housewives (47.5 percent). One third of the women were not exposed to any mass media at all. The mean age at marriage stood at 16.5 years. It is important to note that almost 50 percent of the women got married by the time they were 15 years old. The mean age at first pregnancy stood at 18.7 years. Childbirth soon after marriage was a common pattern in these communities. The mean number of children ever born of women aged 40-44 years stood at 4.8.

A large percentage of mothers (77 percent) reported that they had received antenatal care (ANC) check ups during their pregnancies. However, the complete package of ANC services. (three antenatal checkups by trained medical personnel, two doses of tetanus toxoid and 100 iron folic acid tablets received) was availed by 19 percent of the women. Institutional delivery stood at a low 11 percent. An alarming 88 percent of the women were found to be anaemic.

Of the 830 observed births in the survey, birth weights were obtained for 741 babies within 48 hours of delivery. It was found that Low Birth Weight stood at 42 percent. More than half the women discarded their colostrum, and did not feed it to the infant. Only about 13 per cent of the children had been breastfed within the first hour after birth. The median duration of breastfeeding stood at 20.23 months. Half of the infants had received complete primary immunization.

THE PROJECT PARTNERS

Krishi Gram Vikas Kendra (KGVK), a Ranchi based, non governmental organization (NGO), has been working closely with local communities in Jharkhand for more than three decades. The organisation has undertaken initiatives in the areas of health, watershed development, education and livelihoods. It has been recognized as a Mother NGO in the state of Jharkhand under the Reproductive and Child Health Programme, Ministry of Health and Family Welfare, Government of India.

Child In Need Institute (CINI), is guided by its mission of 'Sustainable Development in Health, Nutrition and Education for child, adolescent and woman in need.' A national NGO with presence in multiple states, it has been recognized as a Regional Resource Centre under the Reproductive and Child Health Programme, Ministry of Health and Family Welfare, Government of India. CINI has evolved a life cycle based framework for improving key reproductive and child health outcomes through proactive partnerships with government and non government stakeholders.

Social Initiatives Group (SIG), ICICI Bank, supports innovative initiatives in the areas of early child health, elementary education and micro financial services with an aim to improve human capacity. In partnership with governments, NGOs, academic and research institutions, the SIG co-develops and funds the development of evidenced-based models addressing key sectoral gaps in knowledge and practice, that have the potential to be mainstreamed through larger systems.

The Department of Health, Medical Education and family welfare and the Department of Social Welfare, Government of Jharkhand, are closely involved in the project. They have played an important role in problem identification, project design and in the intervention process as well.

Technical assistance for the has been received from Dr. Michael McQuestion, formerly at the Johns Hopkins Bloomberg School of Public Health, Baltimore, USA, and Dr. Michele Dreyfuss of the same institute.

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I. INTRODUCTION

The Ranchi Low Birth Weight Project aims at reducing the incidence of low birth weight (*Born weight less than 2500 grams*) in two blocks of Ranchi district, Jharkhand, using a community based life cycle strategy. Initiated in 2003, the five year action research project focuses on breaking the intergenerational cycle of malnutrition and low birth weight to make a positive impact on key maternal and health outcomes like reducing severe malnutrition among children in 0-2 years age group, reducing infant mortality and reducing prevalence of anaemia among women.

The project aims to test the hypothesis that, over a five-year period, the proposed community-level interventions along with the provision of mandated health services will reduce the incidence of low birth weight to a greater extent than the impact that ensuring existing health service provision and infrastructure would have in isolation. Accordingly, a design that captures the effect of these different interventions has been adopted. Thus, 50 per cent of the sub centres were randomly selected in the two blocks of Sonahatu and Mandar as comparison areas. In the intervention blocks of Silli and Angara, while interventions for ensuring mandated services were undertaken in all the sub centres, 50 per cent of the sub centres were randomly selected for community based interventions. All the four blocks were covered as part of the baseline survey conducted in year 2004 prior to the commencement of the project interventions.

The project comprises of interventions at two levels the community and the public health system. The community based interventions include a hamlet level community health worker (*Saiyya*) and Village Health Committees who act as agents of community mobilisation by undertaking behaviour change communication, preventive and promotive care and case management in the area of maternal and child health. There is a focus on ensuring delivery of mandated health services and also linking the communities with the requisite services and systems. The project also focuses on matching the increased demand generated by these community based activities with the strengthening the public health system to ensure provision of mandated primary health services.

I.1. Methodology

A baseline study, which included household (HH), antenatal care (ANC), youth survey and focus group discussions (FGDs) was conducted between January to July 2004 across the four blocks in Ranchi. Thus, qualitative and quantitative data were obtained to assess the maternal, child and adolescent health status in the area before the commencement of the project. This summary report presents the baseline findings on maternal and child health.

The data for the HH survey was obtained from 3536 women who had given birth in the previous five years. In case of two or more pregnancies in the period of five years, details were taken for the last pregnancy. The sample was generated by randomly selecting two or three villages in the catchment areas of each of the 72 subcentres, which serve the study area. In each survey village, all households were listed and 22 women were randomly selected per village, generating a total sample size of 4752 respondents. A total of 195 villages were thus covered in the survey. The survey also collected information on childhood morbidity and its treatment-seeking pattern from the 3536 households. The sample covered one respondent from each household.

For the ANC survey, 996 women who were in the third trimester of pregnancy at the time of the survey from the 195 villages were interviewed. All pregnant women in the third trimester of pregnancy from these villages were covered. Information on nutrition, workload and rest during pregnancy was analysed from the ANC survey.

FGDs were carried out with three groups-women below 30 years, women above 30 years and key informants like teachers, women of selfhelp groups, housewives, nurses, traditional birth attendants (*dais*), health workers, students and registered medical practitioners. A total of 57 FGDs were conducted during June-July 2004 across all four blocks.

The total population covered in the four blocks during the survey was 20, 396 which included 1167 households in Angara, 1356 in Silli, 371 in Mandar and 342 in Sonahatu blocks.

ORG Centre for Social Research, an independent survey agency was involved in baseline data collection and data entry. CINI's Research Team based in Jharkhand, in consultation with Dr Michael McQuestion formerly at the John Hopkins Bloomberg School of Public Health, USA and Dr Michele Dreyfus of the same institute were responsible for designing the instruments. Quantitative analysis of the data was done with the help of the standard SPSS software.

2. Background characteristics of the households

This chapter presents demographic and socioeconomic characteristics of the four blocks (Angara, Silli, Mandar and Sonahatu) in Ranchi district, Jharkhand, India. The percentage distribution- of households by religion, caste, household amenities and standard of living index and general characteristics like education, occupation and exposure to mass media are covered in this chapter.

2.1. Introduction

Jharkhand is predominantly a rural state - about 80 per cent of its population resides in rural areas¹. The sex ratio stands at 947 females for every 1000 males in rural areas and only 904 females for every 1000 males in urban areas.

2.2. Demographic characteristics

2.2.1 Household Size

The total population covered in the four blocks during the survey was 20,396 which included 1167 households in Angara, 1356 in Silli, 371 in Mandar and 342 in Sonahatu blocks. The survey revealed that the average household size varied from the 5.6 in Silli to 10 in Sonahatu block (see Table 1).

Table 1: Percent distribution of households by selected characteristics

Indicators	Angara	Silli	Mandar	Sonahatu	Total
Household Covered	1167	1356	371	342	3536
Avg. household size	5.8	5.6	6.9	10.0	5.7
Religion					
Hindus	48.5	80.1	19.1	74.6	62.3
Muslims	2.1	2.2	28.3	0.2	4.6
Christians	3.8	0.1	11.3	0.3	2.5
Sarnas	45	17.4	39.4	24.8	30.1
Caste					
SC	12.9	8.9	7.3	15.3	11.2
ST	56.4	26.8	55.8	29.9	40.2
OBC	27.8	60.5	27.8	54	45.1
Others	2.9	3.7	9.2	0.8	3.5

2.2.2 Religion

The survey showed that Hinduism was the dominant religion in all the four blocks followed by Sarna (a tribal religion). This was in keeping with the NFHS II data for the state which showed that 83 percent of the household heads were Hindus, 11 percent were Muslims and four percent were Christians.

2.2.3 Caste

Scheduled tribes constituted 40.2 percent of the population across the four blocks in Ranchi. This again was in line with Census 2001 data which showed that 41.8 percent of the population in Ranchi district belonged to Scheduled Tribes (STs)². The baseline data also showed that among the four blocks, scheduled castes had maximum presence in Sonahatu.

2.3 Household Characteristics

1. NFHS-II, 1998-99

2. Census 2001, Registrar General of India

2.3.1 Type of house

The type of house categorization used in this baseline survey was adopted from NFHS. Accordingly, a house was designated *kaccha* when all three (the wall, floor and roof) were made of *kaccha* materials such as mud, thatch etc. A semi *pucca* house was one where any one of the three (wall, floor and roof) was made of *pucca* materials such as brick, cement or concrete. A house was designated as a *pucca* house when the floor, wall and roof were all made of materials categorized as *pucca*.

It was found that more than three fourths of the households (79.9 per cent) in the four blocks had *kaccha* houses (see Table 2). Only 4.2 per cent of the total households had a *pucca* house. The highest number of *kaccha* houses was in Angara (82.5 percent) followed by Silli (76.2 percent)

2.3.2 Source of drinking water

Unsafe water supply was more common in the four blocks (62.9 percent) compared to safe water supply (33.1 percent). Public taps, hand pumps (public and private), covered wells (public and private) were categorized as sources of safe drinking water. Open wells (public and private), springs, dam, rainwater and other such sources were categorized as sources of unsafe drinking water. Overall, those residing in Mandar had maximum access to safe drinking water (51.3 percent).

Table 2: Percent distribution of households by housing characteristics

Indicators	Angara	Silli	Mandar	Sonahatu	Total
Type of house					
<i>Kaccha</i>	82.5	76.2	80.6	82.6	79.9
Semi <i>pucca</i>	14.5	18.2	17	13.1	15.9
<i>Pucca</i>	3	5.6	2.4	4.4	4.2
Source of water					
Safe drinking water	36.8	27.2	51.3	27.5	33.1
Unsafe drinking water	61.5	67.6	48.5	67	62.9
HH Below BPL	61.6	40.5	36.1	49.7	48.7
Having separate room for kitchen	42	34.4	42.3	24.9	36
Household using Toilets	2.8	4.4	7	1.6	3.6
Standard of living					
Low	46.2	53.2	38.0	53.1	49.3
Medium	43.5	36.6	48.5	38.6	40.6
High	10.3	10.0	13.5	8.3	10.2

2.3.3 Standard of Living

The Standard of Living Index (SLI) is a summary of household measures. As calculated by the NFHS, the SLI for the baseline was determined by material possessions of the individual households.

The following scores were used to calculate SLI:

- House type: 4 for ital, 2 for semi-*pucca*, 0 for *kaccha*;
- Toilet facility: 4 for self owned flush toilet, 2 for public or shared flush toilet or self owned pit toilet, 1 for shared or public pit toilet, 0 for no facility;
- Sources of drinking water: 2 for pipe, hand pump, or well in residence/yard/plot, 1 for public tap, hand pump, or well, 0 for other water source;
- Separate room for cooking: 1 for Yes, 0 for No.

The index scores in the 0-7 range were categorized as low SLI, 8-13 as medium SLI and 14-30 as high SLI.

It was seen that SLI for the surveyed households were mostly in the low and medium categories. Only 10.2 per cent of the households from the four blocks had a high SLI. Mandar had the highest number of households with high SLI (13.5 percent).

2.4 General Characteristics of Respondents

2.4.1 Education

More than half the respondents (ever-married women in the age group of 15-49 years) in each of the blocks were found to be illiterate. Illiteracy was highest in Angara (71.1 percent). Only 7.3 percent of the respondents had studied up to the primary level. Illiteracy among the husbands of the respondents in all the four blocks stood at 30.7 per cent.

Table 3: General Characteristics of the Respondents

Indicators	Angara	Silli	Mandar	Sonahatu	Total
Age					
>30	67.4	70	61.2	69.3	68.2
30-44	32.2	29.6	38.2	29.9	31.4
45 more	0.4	0.4	0.5	0.8	0.5
Education					
Illiterate	71.1	56.8	67.9	61.4	63.5
Up to primary	8.6	6.7	8.4	5.3	7.3
Below high school	12.9	18	13.5	18.4	15.9
High school and above	7.5	18.5	10.2	15	13.3
Occupation					
Govt. services	0.4	1.5	0.3	1.7	1
Private Services	0.3	0.3	0	0.6	0.3
Business	3.4	4.9	1.1	0.8	3.3
Housewife	45.2	50.4	42.9	48.1	47.5
Others ¹	50.7	43	55.8	48.7	47.9
Husband's education					
Illiterate	36.1	24	38.3	30.4	30.7
Up to primary	12.8	9.4	15.1	8.3	10.9
Below high school	25.2	20	22.4	18.7	21.7
High school and above	26	46.5	24.3	42.7	36.7

¹ Self employed, agriculture, labour and others

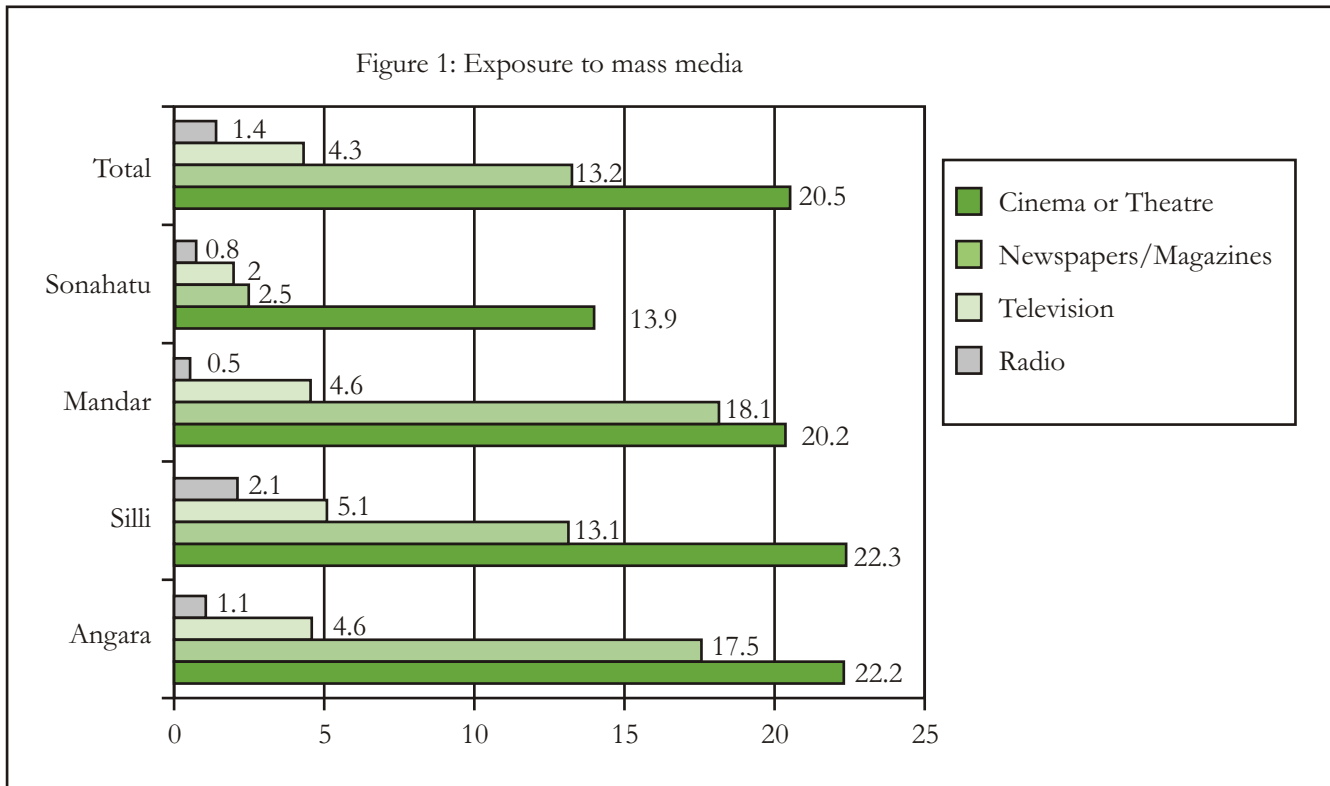
2.4.2 Occupation

It was seen that the low literacy level of the women translated into extremely limited scope for employment in the government and private sector (see Table 3). The women were largely involved in agriculture/manual labour (47.9 percent) or were housewives (47.5 percent).

2.4.3 Exposure to Mass Media

Mass media can play an important role in disseminating information and creating awareness about various issues including health. Audio-visual media, in particular, can prove to be effective in communicating with people who are non-literate or have had limited exposure to formal education. The baseline survey revealed that people with medium and high SLI read a newspaper/magazine at least once a week (see Figure 2).

Regular exposure to radio was highest among Hindus and Muslims.



3. Fertility And Family Planning

This chapter focuses on aspects related to fertility and family planning. Information related to age at marriage, age at first pregnancy and children ever born is presented. In the concluding section, knowledge about family planning methods (both temporary and permanent) is highlighted.

3.1. Introduction

Fertility is influenced by a number of factors namely, socio-demographic characteristics, pregnancy outcomes, birth intervals, age at first marriage and age at first pregnancy. It is important to remember that early marriage and subsequently early and frequent pregnancies is harmful for both the mother and the child. It can lead to maternal and infant morbidities and mortalities.

Data from NFHS II estimated that women in Jharkhand have an average of 2.8 children throughout their childbearing years. Also, it was seen that illiterate women, women from households with low or medium standard of living, women from Scheduled Castes (SC) or Other Backward Classes (OBC), and Muslim women have much higher fertility than other women.

3.2. Age at Marriage

The mean age at marriage in the surveyed blocks stood at 16.5 years which was less than the national figure of 18.7 years. Further, the mean age at first pregnancy was 18.7 years.

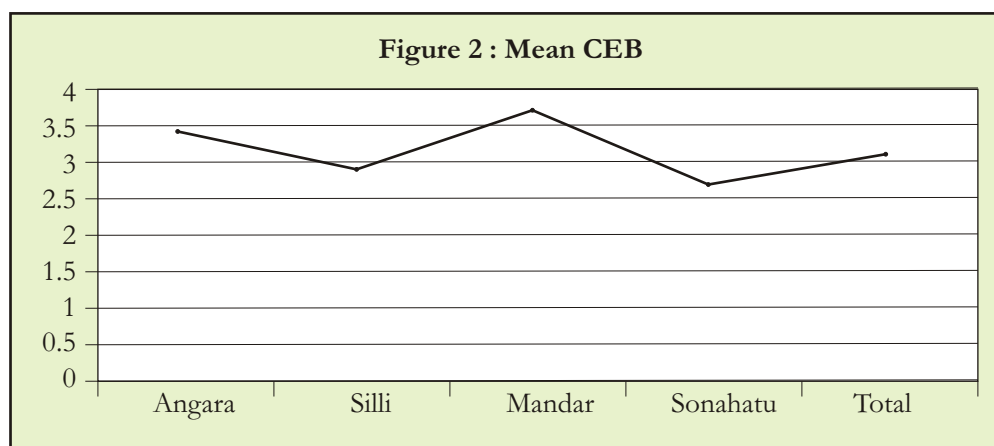
Table 4: Mean age at marriage and first pregnancy (in years)

Aspects	Angara	Silli	Mandar	Sonahatu	Total
Mean age at marriage	16.3	16.5	16.9	16.4	16.5
Mean age at 1st pregnancy	18.5	18.7	18.8	18.9	18.7

3.3. Children Ever Born

The number of children a woman has ever borne is a cohort measure of fertility. It provides a somewhat different picture of fertility levels, trends and differentials than do period measures of fertility such as the crude birth rate (CBR) and total fertility rate (TFR).

In the surveyed blocks, the mean number of children ever born (CEB) varied from 2.7 in Sonahatu to 3.4 in Angara (see Figure 2). In the age group of 15-45 years women in India, the mean CEB is 2.4 for all women irrespective of marital status, and three for those who are currently married



The mean child ever born (CEB) of women aged 40-44 years was highest at 4.8.

3.4. Family planning

The gap between knowledge of family planning methods and their proper use has been a major constraint for most population programmes. Statistics have shown that the most commonly used family planning method in Jharkhand is female sterilization at 21.1 percent (NFHS-II, 1998-99). In fact, female sterilization is the most widely known method of contraception in India followed by the male sterilization. The survey confirmed that in a similar pattern enlisted in the four blocks (see Table 5). Knowledge about condoms ranged from zero percent in Sonahatu to 1.4 per cent in Silli.

Table 5: Knowledge of family planning methods and its uses

Blocks	Any Method	Pills	Condoms	IUD/ Loop	Female Sterilization	Male Sterilization	Other	Not using any method
Angara	17.7	2.3	0.6	0.8	12.6	0.3	1.1	82.3
Silli	18	1.8	1.4	0.4	12.3	0.1	1.9	82
Mandar	18.1	4.3	0.8	1.6	8.6	0.3	2.4	81.9
Sonahatu	10	1.2	0	0.5	8.1	0	0.2	90
Total	16.4	2.1	0.8	0.7	11.3	0.1	1	83.6

4. Maternal Health

In this chapter, aspects such as antenatal and postnatal care, including their components and the reasons for not availing the same are covered. The place and type of delivery and reasons for not opting for an institutional delivery are also covered. In the concluding section, maternal nutrition in terms of Body Mass Index (BMI) and prevalence of anaemia among pregnant women is highlighted.

4.1 Introduction

Improving maternal and child health remains one of the priority areas in India. Components of maternal health and nutritional status of women were integrated with family planning services during the Fifth Five Year Plan (1974-79). However, insufficient maternal care during pregnancy and delivery is largely responsible for the appalling annual toll of 529,000 maternal deaths and the estimated four million neonatal deaths that occur within the first month of life.³

4.2 Antenatal Care

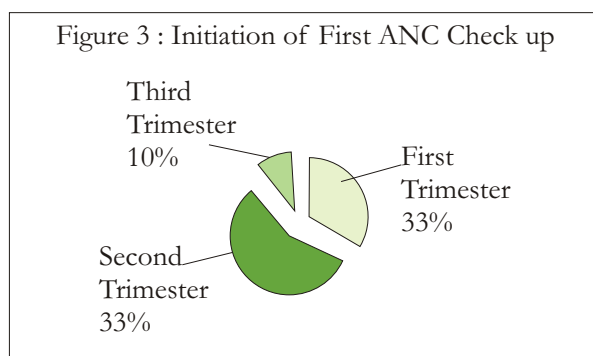
4.2.1 Sources of Antenatal Care

Antenatal care is necessary as it provides an opportunity to monitor a pregnancy and to identify and facilitate corrective action for any complications/health concerns that may arise. Thus, antenatal care is important for ensuring safe motherhood. A woman must undergo at least three antenatal check ups during her pregnancy. A pregnant woman can have an antenatal check up by visiting a doctor or any trained health professional in a medical facility or also at home by visits from a health worker or both. The baseline study showed that 76.3 percent women received any form of ANC in the four blocks, compared to a national average of 66 percent (see Table 6).

Table 6: Percent distribution of women who had ANC check ups for their last pregnancy

Blocks	Received any ANC	Outside home	At home by health worker	Number of women
Angara	69.5	66.3	12.8	1167
Silli	77.5	74.6	11.8	1356
Mandar	69.3	67.4	10	371
Sonahatu	88.9	86	11.5	642
Total	76.3	73.2	11.9	3536

Sonahatu had much higher coverage for antenatal check ups compared to the other blocks. The Respondents with a high SLI were more likely to receive antenatal check ups. Out of the 3536 pregnant women included in the HH survey, 24 percent did not receive any antenatal check ups in these four blocks. The highest coverage of antenatal care was during the second trimester (see Figure 3).



However, it was seen that when asked about full package of ANC services (three antenatal visits, two tetanus toxoid (TT) shots and 100 iron folic acid tablets (IFA) received), The coverage came down to 19 percent.

4.2.2 Reasons for not receiving ANC

It was seen that more than a quarter of the women felt that ANC check ups were not required (see Table 7). In Sonahatu, this number was as high as 54 per cent followed by 41.6 percent in Angara. High cost was also seen as one of the prime causes for the low coverage of ANC in Silli (45.3 per cent) and Angara (31.7 per cent).

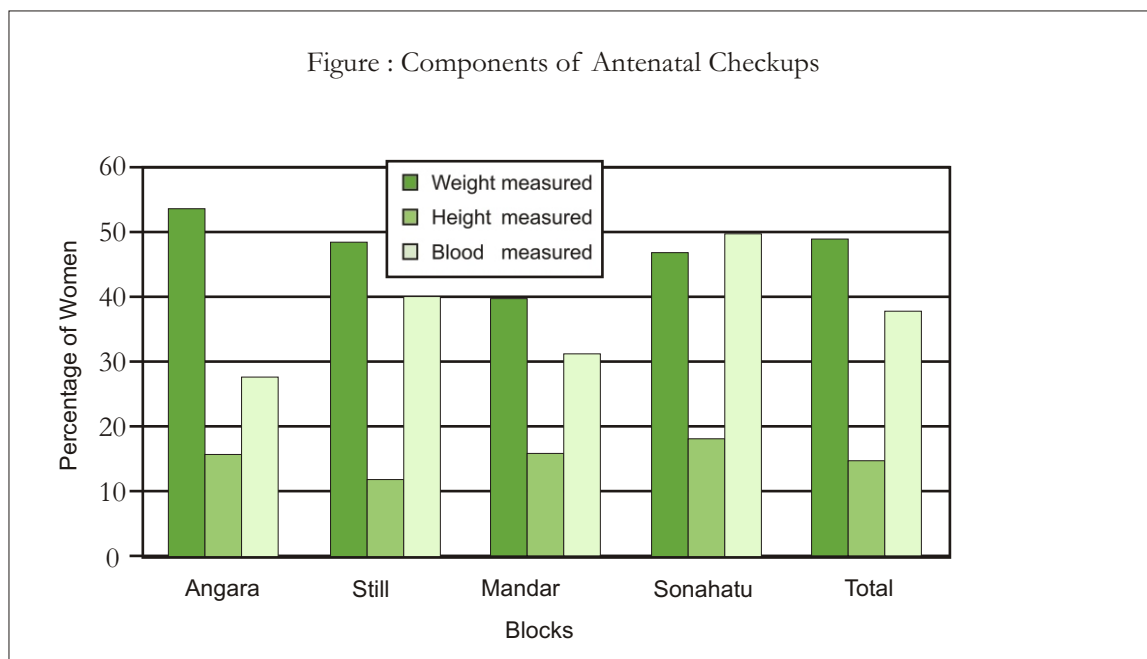
Table 7: Percent distribution of births (for the last delivery) to mothers who did not receive an antenatal check up by the main reason for not receiving an antenatal check up

Reasons for not receiving antenatal check ups	Angara	Silli	Mandar	Sonahatu	Total
Not necessary	41.6	31.6	37.8	53.7	38.6
Not customary	3.1	8.8	2.7	0.5	4.9
Cost too much	31.7	45.3	18.9	10.4	33
To far/ No transport	4.2	2.8	7.2	1.5	3.9
Poor quality services	0.8	0.7	1.8	1.5	1
No time to go	2	1.4	4.5	4.5	2.3
Family did not allow	1.4	1.1	7.2	1.5	2.1
Lack of knowledge	10.1	3.9	9	20.9	8.7
No health worker visited	2.2	2.5	2.7	1.5	2.3
Nobody to accompany	0.6	0.4	3.6	1.5	1
Other	2.2	1.8	4.5	1.5	2.3
Total Percent	100	100	100	100	100
No of women who did not receive any ANC	356	285	111	67	819

On an average, two factors - high costs and a belief that it was not necessary - were the main causes for not receiving ANC check ups. Lack of knowledge, time, transport facilities, accessibility and check ups not being a customary practice were the other main reasons cited for not seeking ANC.

4.2.3 Components of ANC Checkups

The effectiveness of the antenatal check ups in ensuring safe motherhood depends in part on the tests and measurements done and advice given during these check ups (NFHS-II, 1998-99). In all the surveyed blocks, it was found that the weight of the pregnant women was being measured more often in comparison to height or blood pressure (see Figure 4).



Overall, Angara recorded the lowest figures for blood pressure measured, blood tests and abdominal examinations among the four blocks (see Table 8). In terms of advice given, mothers received dietary advice the most (in 64.2 per cent of the cases).

Table 8: Percentage of women receiving specific components of ANC check ups (for the last delivery where an ANC Check up was received)

Components of antenatal check ups	Blocks				Total
	Angara	Silli	Mandar	Sonahatu	
Antenatal measurements/tests					
Weight measured	53.9	48.7	39.6	47	49
Blood pressure checked	28.1	40.3	30.8	49.6	37.7
Blood tested	26.6	36.1	34.2	35.7	33
Abdomen examined	26	37.8	29.2	46.8	35.4
Antenatal advice					
Diet	66.2	61.3	47.7	74.4	64.2
Danger signs of pregnancy	13.4	11.3	20.4	22.6	15.2
Delivery care	39.6	27.4	43.8	29.6	33.1
Newborn care	17	9.4	9.2	10.6	11.9
Family planning	12.2	2.1	11.2	4.2	6.4
Total	31.4	25.1	29.6	35.6	30.4
Number of women who went for at least one ANC	811	1071	260	551	2717

Crucial aspects like delivery care, symptoms of complications in the pregnancy, newborn care and family planning were not highlighted as much.

4.3. Delivery Care

4.3.1 Place of Delivery

It was seen that an overwhelming majority of deliveries across the four blocks take place at home (see Table 9). The highest percentage of deliveries in a health facility/institution in any of the four blocks was at private institutions in Silli at 9.1 percent.

Table 9: Percent distribution of births for the last delivery by place of delivery

	Place of delivery						Number of births
	Health Facility/Institution			Home		Other	
	Public	NGO/Trust	Private	Own Home	Parent's Home		
Angara	2.1	0.3	5.4	86.9	5.0	0.3	1167
Silli	5.5	0.8	9.1	78.5	5.7	0.3	1356
Mandar	2.7	2.7	4.0	83.0	7.5	0.0	371
Sonahatu	3.1	0.5	3.9	82.4	9.7	0.5	642
Total	3.6	0.8	6.4	82.5	6.4	0.3	3536

4.3.2 Assistance during Delivery

Traditional birth attendants (TBAs) conducted more than 78 percent of the deliveries in all four blocks (see Table 10).

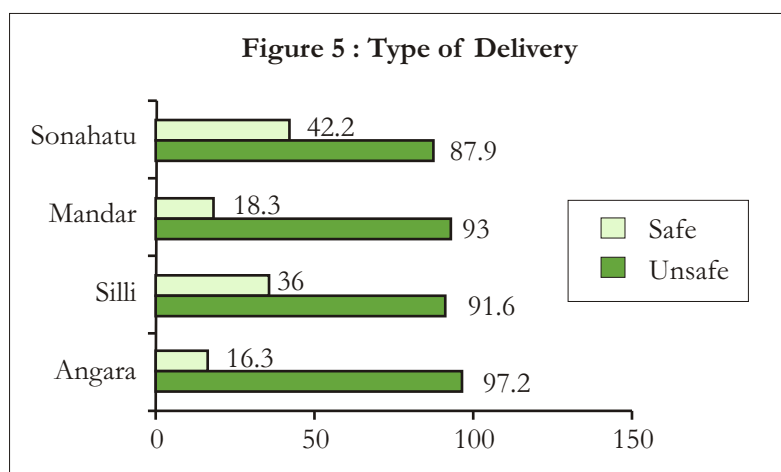
Table 10: Attendant assisting during delivery

Blocks	Doctors	ANMs/Nurse/Midwife/LHV	Other Health Professionals	Dai (TBA)	Husband	Friend/Relative	Other	No. of births
Angara	8.3	8	0.6	86.1	0.5	9.2	0.8	1167
Silli	16	20	0.1	78.2	1.1	11.5	0.7	1356
Mandar	9.7	8.6	0	78.7	0	12.7	1.6	371
Sonahatu	20.9	21.3	3.3	82.7	0	1.6	0.3	642
Total	13.7	15.1	0.8	81.7	0.6	9	0.8	3536

Silli and Sonahatu showed involvement of doctors and auxiliary nurse cum midwives (ANMs) at 36 percent and 42.2 percent respectively. This figure stood at less than 20 percent in case of Angara and Mandar. The husband's role as an attendant during delivery was found to be negligible. It should be noted here that multiple responses were accepted from the respondents.

4.3.3 Type of delivery (safe/unsafe)

Safe deliveries stood at less than 50 per cent in each of the four blocks (see Figure 5). Deliveries conducted by doctors, ANMs, nurses, midwives and lady health visitors were considered safe deliveries. Deliveries conducted by TBAs, friends, relatives and others were considered unsafe deliveries.



4.3.4 Reasons for not opting for institutional delivery

The survey showed that almost half of the respondents felt that institutional delivery was not required (see Table 11). This perception was highest in Mandar where 73 per cent of the respondents considered institutional delivery as not necessary.

Table 11: Percent distribution of births (for the last delivery) to mothers who did not go for institutional delivery by the main reason for not going for the institutional delivery

Reasons for not going to the health facility for delivery	Angara	Silli	Sonahatu	Mandar	Total
Not necessary	47.9	50.9	41.4	72.9	53
Not customary	5.5	3.3	8.3	0.5	4.1
Cost too much	27.3	34.4	25.9	11.3	26.7
To far/ No transport	5.3	2.1	4.2	2.2	3.4
Poor quality services	1.2	0.4	2.1	0.7	0.9
No time to go	2.8	4	3	1.9	3.1
Family did not allow	1.1	0.4	3.6	0.7	1
Better care at home	5.6	3.2	8.3	9.5	5.8
Lack of knowledge	2.2	0.4	1.8	0.2	1.1
Nobody to accompany	0.7	0.6	0.9	0	6
Other	0.3	0.4	0.6	0.2	0.3
Total Percent	100	100	100	100	100
No of births	1072	1142	336	59	3141

The next important reason given for not going for an institutional delivery was higher costs (27 percent). The lack of knowledge as a reason was cited only by 1.1 percent of the respondents.

4.4 Postnatal care

The health of a mother and her newborn depends not only on the health care services that she receives during her pregnancy and delivery, but also on the care that she and the infant receive during the first few weeks after delivery.

The baseline survey revealed that 34 per cent of the noninstitutional births were followed by a checkup within two months

of the delivery (see Table 12). This compared favourably against the national figure of 17 per cent.

Table 12: Percentage of non-institutional births (for last delivery) for which postpartum check up was received and the related specific components

Blocks	Percentage seen within one week of birth	Percentage with a postpartum check-up within two months of birth	Components of first postpartum check ups				No. of births followed by Postpartum check-ups
			Abdominal exam	FP advice	Breast feeding advice	Infant care advice	
Angara	75.4	31.2	11.8	14	45.3	54.4	364
Silli	74.3	36.6	3.2	4.2	25	34.1	496
Sonahatu	79	28.6	10.4	12.3	42.5	62.3	106
Mandar	70.7	37.1	18.9	5.5	45.4	40.8	238
Total	74.5	34	9.6	8.1	36.7	44	1204

The likelihood of a birth being followed by a postnatal check-up was higher for literate mothers compared to illiterate mothers. Families with a high SLI had a higher number of postnatal checkups compared to those with a medium or low SLI. Advice on infant care and breastfeeding were given the most (44 per cent and 36.7 per cent respectively). Aspects such as advice on family planning and abdominal examination were not covered for more than ten per cent (FP advice: 8.1 per cent, abdomen examination: 9.6 per cent). Figures for coverage of all these components of postnatal care were lowest for Silli.

4.5. Maternal Nutrition

Safe motherhood and subsequently child survival and growth cannot be ensured in the absence of adequate maternal nutrition. In the baseline survey, the Body Mass Index (BMI) - an important indicator of adult nutritional status - was measured. Prevalence of anaemia among pregnant women was also recorded. Significantly, iron-deficiency anaemia is the most common form of malnutrition in the world and is the eighth leading cause of disease in girls and women in developing countries.⁴

4.5.1 Nutritional status of women

Body mass index (BMI) is defined as the weight in kilograms divided by the height in metre square (kg/m^2). The mean BMI for women in India is $20.3 \text{ Kg}/\text{m}^2$. Chronic energy deficiency is usually indicated by a BMI of less than $18.5 \text{ Kg}/\text{m}^2$. In all the four blocks, the mean BMI was found to be less than the mean BMI for women across the country (see Table 13).

Table 13: Mean height, percentage with height below 145 cm and mean BMI among ever-married women

Blocks	Height		Weight for height	
	Mean height (cm)	Percentage below 145 cm	Mean BMI	No. of women
Angara	148.7	22.6	19.2	1104
Silli	148.3	22.1	19	1300
Mandar	150.3	17.7	19.3	322
Sonahatu	149.3	18.5	18.7	612
Total	148.8	21.2	19	3338

Also, the mean height of the women in the four blocks was 148.8 cm which was lower than the national figure of 151 cm. A short stature is a matter of concern as such women face greater risk of a difficult delivery because of their smaller pelvic size.

4.5.2 Anaemia among Pregnant Women

In India, more than 50 percent of the women suffer from anaemia (mild, moderate or severe). Almost 10 percent of the women are severely anaemic, 15 percent are moderately anaemic, and 35 percent are mildly anaemic.⁵ In the four blocks of the study area, it was found that 6.5 per cent of the women were severely anaemic, 58.3 percent were moderately anaemic, and 23.3 percent were mildly anaemic (see Figure 6). Thus, an alarming 88 percent of pregnant women suffered from anaemia in the study area.

Angara had the highest percentage of any anaemia at 91.1 per cent (see Table 14).

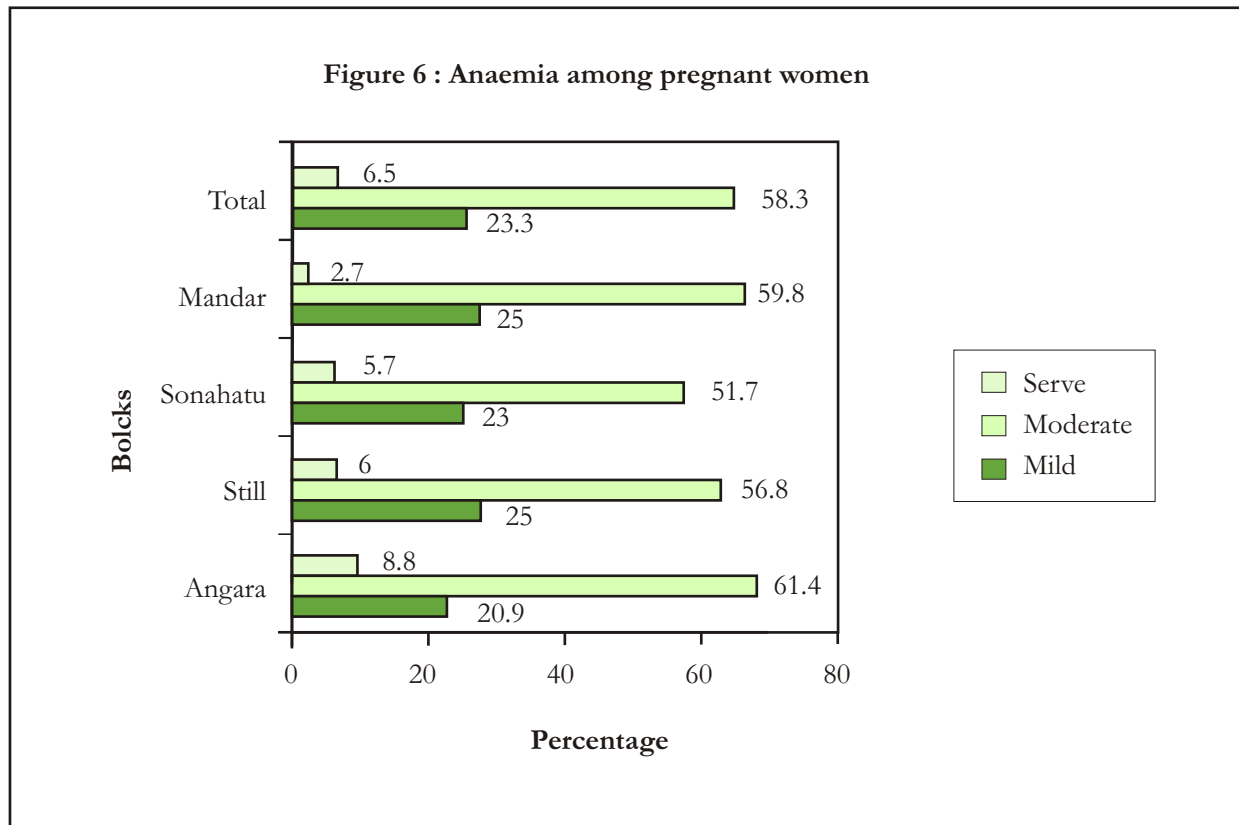


Table 14: Percentage of pregnant women with any anaemia

Blocks	Percent with any anaemia	No of women
Angara	91.1	306
Silli	87.8	352
Sonahatu	80.4	112
Mandar	87.5	87
Total	88.1	857

5. CHILD HEALTH

This chapter highlights critical aspects of child health such as infant feeding practices (focusing on breastfeeding) immunization and the incidence of low birth weight.

5.1 Introduction

Low birth weight (birth weight less than 2500 gm) is one of the most serious challenges in child health. About 50 per cent of neonatal deaths occur among infants born with low birth weight. These under nourished LBW babies begin life with a disadvantage and experience almost no catch up growth if exposed to the same deprived environment, thereby accumulating a developmental burden. Children that survive these developmental 'insults' are subject to increased risks for mortality and morbidity throughout life, as well as to poor physical and cognitive growth and development, thus spelling serious negative outcomes for human capacity. Recent research has also found this to be linked to adult diseases such as coronary heart disease and diabetes. For these and other infants, correct feeding practices form a critical aspect of caring.⁶ It has been seen that about 30 per cent of children under five are stunted as a consequence of poor feeding worldwide. Immunization is another critical aspect that needs to be given due consideration. In fact, in developing countries about three million children die each year from vaccine preventable diseases.⁷

5.2 Infant feeding practices

Good nutrition among infants leads to improved physical growth, reduced susceptibility to common childhood infections and better resistance to cope with them. Here, breastfeeding plays a particularly important role. Early initiation of breastfeeding and exclusive breastfeeding are essential, as breast milk provides the infant essential nutrition and also helps build immunity.

5.2.1 Initiation of breastfeeding

In India, only 16 percent of children are breastfed within the first hour after birth and only 37 percent are breastfed within the first day (NFHS-II, 1998-99). Nearly two thirds of the women (63 percent) discard their first milk or colostrum before beginning breastfeeding.

It was found that in the four blocks, about 13 per cent children had been breastfed within the first hour after birth, while about 31 per cent did so within the first day after birth (see Table 15).

Table 15: Initiation of breastfeeding (percentage of children for last delivery of respondents)

Blocks	Percentage started breast feeding within one hour of birth	Percentage started breast feeding within one day of birth	Percentage whose mother squeezed the first milk from the breast	Number of children
Angara	19.1	44.8	46.6	1149
Silli	10.9	24.8	56.4	1323
Mandar	14.7	33.6	42.7	354
Sonahatu	3.5	15.6	59.1	633
Total	12.7	30.5	52.2	3459

Sonahatu block recorded the lowest figure for both initiation of breastfeeding within an hour of birth and also for breastfeeding within one day of birth.

5.1.2. Median duration of breastfeeding

The median duration of any breastfeeding is slightly more than two years (25.2 months) in India. It has been seen that the median duration of breastfeeding is two months shorter for girls than for boys. This pattern is often observed in societies where there is a strong preference for sons, since the parents may stop breastfeeding a girl at a younger age to increase the chances of having another child earlier (NFHS-II, 1998-99).

In the four blocks, the median duration of breastfeeding stood at 20.23 months (see Table 16). Silli recorded the lowest mean duration of breastfeeding.

Table 16: Median duration of breastfeeding among the children under age of three years

Background Characteristics	Mean duration (months)	Number of children
	Any breastfeeding	
Sex of the child		
Male	20.17	367
Female	20.29	291
Angara	20.91	200
Silli	17.77	242
Sonahatu	21.65	105
Mandar	23.00	111
Total	20.23	658

5.2 Child Immunization

The proportion of fully vaccinated in India by the age 12-23 months stood at 42 percent while 14.4 percent had not received any immunization.⁸ The baseline showed that among the four blocks, Silli had the highest percentage of complete immunization coverage i.e. 63.2 percent (see Table 17). Complete immunization refers to a child receiving BCG, DPT, Polio (three doses) and measles vaccinations.

Table 17: Percentage of children aged 12-23 months who received specific vaccination at any time before the interview and before 12 months of age

	Percentage Vaccinated				
	Angara	Silli	Mandar	Sonahatu	Total
Complete immunization	38.1	63.2	40.5	68.2	53.1
Incomplete immunization	50.9	27.3	49.4	23	37
No immunization	11	9.5	10.1	8.8	9.9
Children with:					
BCG	53.7	58.3	54.9	58.1	56.3
DPT					
1	55.2	59.4	49.8	59.9	57.1
2	46.8	58	44.7	58.5	52.9
3	37.8	51.2	38	55.9	46.3
Polio					
1	54.4	58.3	52.3	59.9	56.7
2	48.3	56.6	43.9	59	52.9
3	40.2	50.5	37.1	55.9	46.6
Measles	38.8	46.1	32.1	48.2	42.5

8. (NFHS-II, 1998-99)

Angara at 38.1 per cent had the lowest percentage of complete immunization coverage among the four blocks. Overall, only 53.1 per cent children were fully immunized in these blocks. About ten per cent of the children had not received any vaccination. 37 per cent of the children had not been completely immunized. At 50 per cent, this figure was highest in Angara block. It was also evident that the vaccination dropout rates were very high (from first to the third doses of vaccines like DPT and OPV). About 43 per cent of the children had received measles vaccine. In this case, Mandar had the lowest coverage at 32.1 per cent.

5.3 Birth Weight

In India, three out of ten babies are underweight. In the four blocks, 41.7 per cent of the children were recorded to have low birth weight. About 7 per cent of the children were severely underweight with a birth weight of less than two kilograms (see Table 18). Among the four blocks, Silli had the highest percentage of low birth weight babies while Mandar had the lowest. (See Figure 9)

Table 18: Birth weight (n=741)

Blocks	Percent of births with:			No. Of women
	Very low Birth weight (<2 kg)	Low birth weight (2-2.49 kg)	Normal birth weight (2.5 kg and above)	
Angara	11.0	26.7	62.4	255
Silli	5.0	42.1	52.9	280
Sonahatu	3.1	37.8	59.1	79
Mandar	2.5	34.2	63.3	127
Total	6.5	35.2	58.3	741

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