



# RANCHI LOW BIRTH WEIGHT PROJECT

## BASELINE STUDY FINDINGS-1

### Low Birth Weight and Maternal Characteristics

#### Background

Low birth weight (LBW) is perhaps the most important factor that affects neonatal and infant mortality and morbidity. In India, out of 26 million infants born each year, 7.8 million are born with low birth weight (LBW)<sup>1</sup>, accounting for about 40 percent of the global burden<sup>1</sup>. LBW contributes to neonatal and childhood mortality and morbidity, growth and development during childhood, and to adult disease like diabetes, and coronary heart disease<sup>ii iii iv</sup>. Reduction of LBW is therefore critical to improving infant and child morbidity and mortality, as well as raising productivity and lifetime private earnings, and reducing private and public health care expenditures throughout the life cycle<sup>v</sup>.

This brief highlights the status of the antenatal cohort followed as part of the baseline study and the findings related to the proportion of low birth weight infants. In the concluding section, distribution of birth weight by mothers' background characteristics is presented.

#### Status of Antenatal Cohort followed up till neonatal period

Total pregnant women identified	: 996
Loss to follow up	: 166
Total Live births	: 803
Birth weight taken (within 48 hours)	: 741
Neonatal deaths	: 34

<sup>1</sup> Birth weight less than 2500 gms.

#### Ranchi Low Birth Weight Project

##### PROJECT PARTNERS

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

The baseline survey of the Ranchi Low Birth Weight Project was carried out in 2004 and has collected information on maternal, child and young people's health. The survey forms part of a large, ongoing field trial to reduce incidence of low birth weight. Key baseline findings have been thematically organised and published in the form of a series.

Out of the 996 women identified in their third trimester pregnancy, the birth outcome of 830 women is given below.

Table 1 : Pregnancy Outcome (N = 830)

	Frequency	Percent
Live birth single	794	95.66
Live birth multiple	3	0.36
Live and still birth	3	0.36
Still birth single	30	3.61
Total (N)	830	100.00

### Proportion Of Low Birth Weight Infants

Proportion of babies born with low birth weight in the surveyed blocks stood at a dismal 42 percent, much higher than the national figure of 23 percent<sup>vi</sup>. Among the four surveyed blocks, Silli had the highest percentage of low birth weight babies while Mandar had the lowest (see Table 2).

Table 2 : Birth Weight (N = 741)

Blocks	Percent of births with :		No. of Women
	Low Birth Weight	Normal birth weight	
Angara	37.7	62.4	255
Silli	47.1	52.9	280
Sonahatu	40.9	59.1	79
Mandar	36.7	63.3	127
Total	41.7	58.3	741

\* NFHS-II (out of those responded who could report birth weight)

## Methodology

Data for this study was collected between January to July 2004, in 195 villages through a Household Survey. The study areas were Angara, Silli, Sonahatu and Mandar blocks covering 72 sub centre areas within Ranchi. The sample covered one respondent from each household. The ANC survey included a total of 996 women from 195 villages who were in their third trimester of pregnancy at the time of the survey. Measurement Supervisors visited the pregnant women regularly from the sixth month of pregnancy till the newborns crossed the neonatal period. The supervisors took the birth weights of the newborns within 48 hours of birth. They were trained in taking birth weights.

### References

- i. United Nations Children's Fund and World Health Organization. Low Birthweight: Country, Regional and Global Estimates. UNICEF, 2004.
- ii. UNICEF ROSA. Malnutrition In South Asia: A Regional Profile. Regional Office for South Asia (ROSA). UNICEF. 1997.
- iii. Yasmin, S. D.Osrin, et al. Neonatal mortality of low-birth-weight infants in Bangladesh. Bulletin of the World Health Organization 79(7): 608-614.2001
- iv. Barker, D. Mothers, babies and disease in later life. Churchil Livingstone. 1998.
- v. Gillespie, S. L. Haddad. Attacking the Double Burden of Malnutrition in Asia. Sage Publications. 2003.
- vi. International Institute for Population Sciences and ORC Macro. National Family Health Survey (NFHS-2), 1998-99; India. IIPS 2000.

Table 3 : Birth Weight by Mother's Background Characteristics (N = 741)

	Percent of births with :		N
	Low Birth Weight (<2.5 Kg.)	Normal Birth Weight (2.5 Kg and above)	
Age	(p = 0.068)		
15-24	46.9	53.1	130
25-34	46.9	31.4	267
35-49	37.2	62.8	344
Working status	(p = 0.254)		
Not working	39.5	60.5	403
Working	36.4	63.6	33
Working (Agricultural/labour)	43.7	56.3	305
Religion	(p = 0.125)		
Hindu	39.9	60.1	496
Muslim	38.1	61.9	42
Christian	26.7	73.3	15
Sarna	48.7	51.6	188
Caste/Tribe	(p = 0.030)		
SC	48.9	51.1	88
ST	45.7	54.3	269
OBC	36.2	63.8	354
Others	50.0	50.0	30
SLI	(p = 0.124)		
Low	44.7	55.3	376
Medium	36.7	63.3	275
High	42.4	57.6	85
Family Type	(p = 0.266)		
Nuclear	41.9	58.1	358
Extended Composite	43.5	56.5	313
	32.5	67.1	70
Mass Media	(p = 0.081)		
Not exposed to any	44.0	56.0	489
Exposed to some	37.3	62.7	252
Anaemia	(p = 0.044)		
Normal or mild	36.9	63.1	225
Moderate or Severe	45.1	54.9	412
Blocks	(p = 0.113)		
Angara	37.6	62.4	255
Silli	47.1	52.9	280
Sonahatu	40.9	59.1	79
Mandar	36.7	63.3	127
Total	41.7	58.3	741

## ABOUT THE PROJECT PARTNERS

Krishi Gram Vikas Kendra is recognised by the Government of India as a mother NGO for the RCH programme in the state of Jharkhand. It has a strong history of working with local communities in Ranchi district. Child In Need Institute, a national NGO, has more than three decades of experience in the field of reproductive and child health. It has been working on a community-based life cycle-based approach to reduce low birth weight and malnutrition. Improving infant health at birth has been one of the key thrust areas of the Social Initiatives Group, ICICI Bank. It supports and funds development of promising models that address gaps in policies and programmes. These common interests have resulted in a tripartite collaboration for the action research project known more popularly as the Ranchi Low Birth Weight Project. The Department of Health, Medical Education and Family Welfare and the Department of Social Welfare, Government of Jharkhand, are closely involved in the project and have provided continued support.

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

Contributors :  
Dr. Subroto K Mondal  
Mr. Kumar Premchand  
Mrs. Tanvi Mishra  
Dr. Manasee Mishra

For More Details Contact :  
LCA Cell  
Child In Need Institute  
E-mail: [lca@cinindia.org](mailto:lca@cinindia.org),  
[mertjhk@cinindia.org](mailto:mertjhk@cinindia.org)

Copyright © 2006 Ranchi Low Birth Weight Project  
All rights reserved.