

**EXPLORING CHILDREN'S HEALTH IN NORTH EAST STATES: A CASE
STUDY OF CHILD WELFARE PROGRAMMES IN SAIKOT VILLAGE,
CHURACHANDPUR DISTRICT, MANIPUR**

*Dissertation submitted to the Jawaharlal Nehru University
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DOROTHY LALNEIZO



CENTRE OF SOCIAL MEDICINE AND COMMUNITY HEALTH

SCHOOL OF SOCIAL SCIENCES

JAWAHARLAL NEHRU UNIVERSITY

NEW DELHI – 110067

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DECLARATION

This is to certify that this dissertation entitled “**EXPLORING CHILDREN’S HEALTH IN NORTH EAST STATES: A CASE STUDY OF CHILD WELFARE PROGRAMMES IN SAIKOT VILLAGE, CHURACHANDPUR DISTRICT, MANIPUR**” submitted by me is in partial fulfillment of the requirements for the award of the degree of Master of Philosophy of the Jawaharlal Nehru University, is my original work and it has not been previously submitted in part or full, for award of any other degree of this or any other university.


DOROTHY LALNEIZO

CERTIFICATE

We recommend that the dissertation be placed before the examiners for evaluation and consideration of the award of the Master of Philosophy.



Dr. SUNITA REDDY
(Supervisor)
Dr. Sunita Reddy
Asstt. Professor
CSMCH/SSS/JNU



Prof. MOHAN RAO
(Chairperson)
Chairperson
**Centre of Social Medicine &
Community Health, SSS
Jawaharlal Nehru University
New Delhi-110067**

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Abbreviations

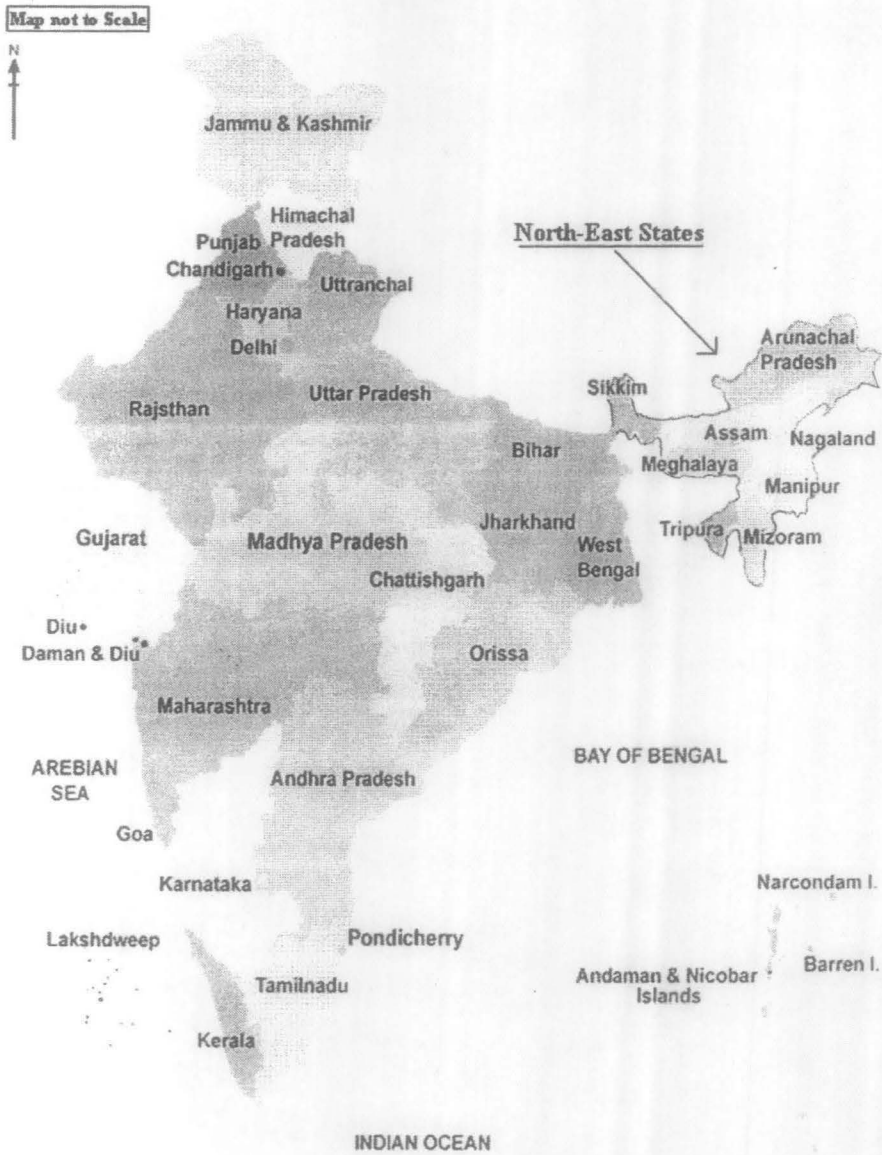
AAV	Antyodana Anna Yojana
ANM	Auxiliary Nurse Midwifery
APL	Above Poverty Line
ARI	Acute Respiratory Infection
AWC	Anganwadi Centre
AWW	Anganwadi Worker
BCC	Behaviour Change Communication
BCG	Bacillus Calmette Guerin
BPL	Below Poverty Line
CHC	Community Health Centre
CMP	Common Minimum Programme
CSSM	Child Survival and Safe Motherhood
CWA	Citizen Welfare Association
DLHS	District Level Household Survey
DPT	Diphtheria Pertussis Tetanus
DWCD	Department of Women and Child Development
GOI	Government of India
HYA	Hmar Youth Association
ICDS	Integrated Child Development Scheme
ICMR	Indian Council of Medical Research
IEC	Information Education and Communication
IMNCI	Integrated Management of Neonatal and Childhood Illnesses
IYCF	Infant and Young Child Feeding
LPG	Liquefied Petroleum Gas
MBBS	Bachelor of Medicine and Bachelor of Surgery
MCH	Maternal and Child Health
MDG	Millennium Development Goal
MO	Medical Officer
NFHS	National Family Health Survey

NMR	Neo-natal Mortality Rate
NNMB	National Nutrition Monitoring Bureau
NNP	National Nutrition Policy
NREGS	National Rural Employment Guarantee Scheme
NRHM	National Rural Health Mission
OPD	Out-Patient Department
ORS	Oral Rehydration Supplement
ORT	Oral Rehydration Therapy
PHC	Primary Health Centre
PMGY	Pradhan Mantri Gramodaya Yojana
RCH	Reproductive and Child Health
RIMS	Regional Institute of Medical Sciences
RTI	Reproductive Tract Infection
SNP	Supplementary Nutrition Programme
SSA	Sarva Shiksha Abhiyan
SYC	Saikot Youth Club
UEE	Universalization of Elementary Education
UIP	Universal Immunization Programme
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
UPA	United Progressive Alliance
VA	Village Authority
VPD	Vaccine Preventable Diseases
WHO	World Health Organisation
YMA	Young Mizo Association

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MAP OF INDIA INDICATING NORTH-EAST STATES



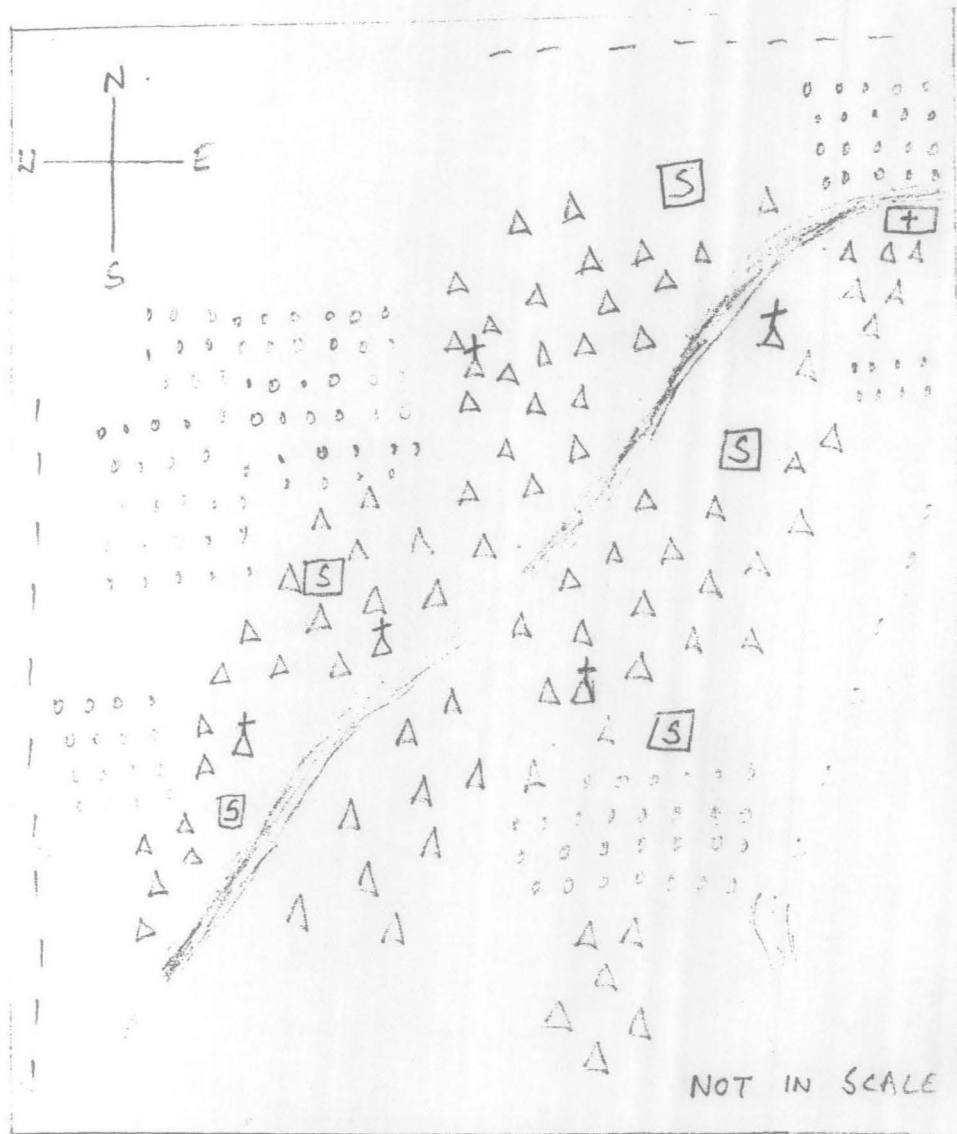
Source: <http://india.nic.in>

MAP OF MANIPUR STATE



Source: <http://manipur.nic.in>

VILLAGE MAPPING



NOT IN SCALE

LEGEND

- △ △ - VILLAGE SETTLEMENT AREA
- ☒ - PHC
- ☒ - SCHOOL
- - TERRACED PADDY FIELD
- - - - - RIVER
- ▬▬▬ - ROAD (MOTORABLE)
- - - - - BOUNDARY

INTRODUCTION

Health is an important asset of any community or nation. Health status of a state or a nation is an index of the quality of life, productivity, growth, hope and aspiration of the people. Children's health status and health indicators are also important information which helps in understanding the health scenario of a population. Health care is important not only for having a healthy productive workforce and general welfare, but also for attaining the goal of population stabilization. Population stabilization is proposed to be achieved by addressing issues like child survival, safe motherhood and contraception (Economic Survey, 2006-07). These issues are highlighting the determinants of child mortality which also includes, at the most distant level, the socio-economic factors, such as income, social status, and education, which work through an intermediate level of environment and behavioural risk factors.

Many studies have shown that large number of children is deprived of good health and therefore they are more vulnerable to diseases. Most of the childhood diseases are preventable, if timely action has been taken. For example, a large proportion of children die of vaccine preventable diseases like measles, tetanus, whooping cough, polio. Therefore, great emphasis must be put on preventable programmes, including nutrition, education, immunization, and improving environmental conditions.

The state of world wide children's health during the past century has not been something which can be proud of. More than 10 million children die each year, most of them from preventable causes and almost all in poor countries. The cause of death differ substantially from one country to another highlighting the need to expand the understanding of children's health in terms of epidemiology, undernutrition, and other causes of child deaths associated with infectious diseases, and the effects of multiple concurrent illnesses. Therefore a better understanding of child health could contribute more effective approaches to saving children's lives.

In India, over the years there has been some improvement in the quality of health care, but wide inter-state, male-female, and rural-urban disparities in outcomes and impacts continue to persist. India's position on health parameters compared even to some of its neighbours continues to be unsatisfactory. The scenario of children's health in India is characterised by high under-five mortality rates, low female literacy rates, early

marriage, the burden of sibling care, food security issues, malnutrition and lack of inadequate health services (World Bank, 2004). The health status of children is also characterised by various determinants which affects the health of the child and the overall health development. Some of the factors which also influence the health of a child are health of the pregnant mother, age at marriage, mother nutritional status and spacing of birth.

The period during 0 to three years of age is a crucial period in many phases for child's development. Many studies have shown that this period is the time when stunting sets in, which possibly involved in the retardation of growth of children. Moreover, there are also other factors which irreversibly faltering the children's growth due to lack of access to safe drinking water, repeated alimentary due to poor environmental hygiene and lack of adequate care in preparing and handling of food and poor child care largely arising from illiteracy of mothers. During this period, immunization of the child against communicable diseases and immunizing the child against childhood illnesses are necessary.

The state of Indian children given by the NFHS-2 shows the poor condition of children's health status, whereby almost 50 percent of children in India are undernourished. Though, there exists interventions and health programmes in the country, around 58 percent of children are still not fully vaccinated and more than 50 percent of children are suffering from moderate and severe anaemia. Acute Respiratory Infection is also one of the problems in which Indian children are suffering from. Therefore there is still a long way to reach the Universal Goals.

Against this background, there is a need to re-examine on what India is doing on child survival, where the structural problems of child deprivation, including mass poverty, social discrimination, lack of education, and gender inequality are involved. Apart from these, however there is also an immediate need to protect children under six, by integrating them in an effective system of child development services that leaves no child behind (Dreze, 2006).

The present study is to understand children's health vis-à-vis factors behind child's morbidity and mortality. The focus is 0-3 years being the most vulnerable. Following this is chapter 2 to explore children's health status in North East states in

comparison to all India based on secondary sources of data. Chapter 3 and 4 looks at the perception, beliefs and practices related to breastfeeding, nutrition and childhood illnesses and child welfare programmes, followed by the exploratory study of the village Saikot in Churachandpur district, Manipur, to see the implementation of child welfare programmes.

CHAPTER 1

UNDERSTANDING CHILDREN'S HEALTH

To understand children's health, one needs to look at what are critical for children's health, development and survival and also see the factors that have linkages with children's health. By looking at the incidence of morbidity and mortality of children, the indicators of children's health can also be determined. A range of health indicators for children also covers longevity, mortality including age specific mortality rates for children, sex ratio, and coverage of immunization, nutritional status and health care infrastructure. So, it is important to focus on children's health and see what are the problems attached with it and understand where the solutions lie.

The process of human development is continuous and cumulative and each sub-stages of development necessarily influence development in the following stages as well as for life (World Bank, 2004). Therefore child crosses each sub-stage with success in all aspects of development is important. The World Bank has divided a child's development continuum with five different sub-stages which are (i) sub-stage one (prenatal to one month), (ii) sub-stage two (one month to three years), (iii) sub-stage three (three to six years), (iv) sub-stage four (six to eight years), and (v) sub-stage five (eight to eleven years). All of these sub-stages are inter-linked; therefore if a child fails to attain one or more of the desired developmental outcomes, whether it is related to health or nutrition or learning capacities then the burden is carried to the next stage.

India has some of the worst indicators of child well being (Dreze, 2006). This is true because from the data of NFHS-3 (2005-06) shows that about half of all Indian children are undernourished, more than half suffer from anaemia, and a similar proportion escape "full immunisation".

Some countries also have such kind of disastrous indicators of child well-being. According to the UNDP Human Development Report 2005, India has the highest proportion of undernourished children in the world, along with Bangladesh, Ethiopia and Nepal. In fact, in terms of the general situation of children, even Bangladesh now seems to be doing better than India, (as the Table 1.1 illustrates). This contrast is all the more striking as Bangladesh is poorer – much poorer – than India.

Table 1.1*India and Bangladesh: Children's Well-being and Related Indicators, 2003*

	India	Bangladesh
Infant mortality rate(per 1,000 live births)	63	46
Proportion (per cent) of one year olds immunised		
BCG	81	95
Measles	67	77
Proportion (per cent) of undernourished children, 1995- 2003 ^a		
Based on weight-for-age	47	48
Based on height-for-age	46	45
Estimated maternal mortality rate, 2000 (per 100,000 live births)	540	380
Net Primary enrolment ratio (female) (per cent)	85	86
GDP per capita (PPP US\$)	2,892	1,770

Source: Human Development Report 2005. Unless stated otherwise, the reference year is 2003.

Note: a: Data refer to the most recent year for which estimates are available during this period.

The table 1.1 also shows that there is a significant difference in Infant Mortality Rate (IMR) and Maternal Mortality Rate (MMR). Bangladesh shows that IMR and MMR are much better than India, where the IMR in Bangladesh is 46 per 1000 live births and 63 per 1000 live births in India. The MMR in Bangladesh is 380 per 100,000 live births which is much better than the India's figure 540 per 100,000 live births where the Gross Domestic Product (GDP) per capita in India is much higher than Bangladesh. This shows that India position in health parameters compared to Bangladesh, the neighbouring country, is still unsatisfactory with respect to IMR and MMR indicators, which have a significant role in children's health.

The table 1.2 also indicates the poor health status of children in India. More than 50% children under the age of three are not fully vaccinated and suffer from moderate to severe anaemia and 47% are still undernourished and 16% are acutely undernourished.

Table 1.2

The State of India's Children:

Proportion (per cent) of young children with the following characteristics:

Undernourished ¹	47
Acutely undernourished ²	16
Not fully vaccinated ³	58
Not vaccinated at all ³	14
Birth was not preceded by any antenatal check	34
Suffer from moderate or severe anaemia	51
Had fever during the last two weeks	30
Had diarrhoea during the last two weeks	19
Had symptoms of acute respiratory infection during the last 2 weeks	19

Source: National Family Health Survey 1998-99 (International Institute for Population Sciences, 2000, pp 209, 219, 270, 272, 283). Unless stated otherwise, the reference group consists of children aged below three years (excluding children aged below six months if appropriate).

Notes:

1. Based on weight-for-age data (below 2 SD of the median of the reference population).
2. Based on weight-for-height data (below 2 SD of the median of the reference population).
3. Age 12-23 months.

Causes of Child's Death (Globally)

The determinants of child's death across countries are varied especially in the developing countries. The under-5 mortality is unacceptably high in many countries, the burden of which is mainly borne by the poor (Houweling, A.J, *et.al.*, 2005). Many researchers have described how the association between children (especially under-5)

mortality and socio-economic, political and health care factors varies in strength between richer and poorer children. After being extensively studied and examining about the determinants of under-5 mortality among the poor and the rich by the Department of Public Health, Erasmus MC University Medical Center, Rotterdam, it was found that poorer groups within developing countries systematically exhibit higher under-5 mortality rates than richer groups (Howeling, A.J., *et.al.*, 2005). However, improving the health of the poor has always been one of the major objectives of national governments and international organizations.

In the late 20th century, more than 10 million children younger than 5 years still die every year (Black, E., *et.al.*, 2003). Some of the high-rate regions constitutes of Sub-Saharan Africa, and South Asia, where Sub-Saharan Africa has the highest child mortality in 1970-74 and South Asia having high rate of child deaths in the 1970's with almost one in ten children in this region still dies before their fifth birthday. Like wise child mortality varies among world regions and these differences are large and increasing.

With an importance given to these issues, in 1990, The World Summit for Children called for world wide, a one-third reduction in child mortality (which is below 70 deaths per 1000 live births). But unfortunately investments and interventions made to achieve such reduction during that time were not commensurate with needs. The mortality reduction target was reached for only five of 55 countries with an under-five mortality rate of 100 or more in 1990 (UNICEF, 2001). Later in the year 2002, as a part of the millennium development goals (MDG) for health, nations pledged to ensure a two-thirds reduction in child mortality by the year 2015 from the base year 1990 (Black, E. *et.al.*, 2003). In addition to setting such a goal, a realistic picture with a country's epidemiological profile and the capabilities of its health system were critically assessed by the global public health community so that interventions and implementation were developed successfully. Moreover, as there is a substantial variation in death rates within regions, it was suggested that planning for health interventions should also takes place at a national level (Black, R., *et.al.*, 2003).

The estimate for global child death in 2000 was 10.8 millions. About 41% of child deaths occur in sub-Saharan Africa and another 345 in south Asia (UNICEF, 2003). As there is substantial variations in death rates within these regions it was suggested that

planning for health interventions should also take place at the national level. A few countries account for a large proportion of all child deaths. In fact, half of worldwide deaths in children younger than 5 years occur only in six countries and 90% in 42 countries (Black, R., *et.al.*, 2003). These deaths are concentrated in regions, particularly in south-Asia and sub-Saharan Africa. Even within countries, spatial variation in mortality rates can be large. In India, for example, the NFHS-2 shows that the mortality rates for children younger than 5 years varied from 18.8 per 1000 births in Kerala to 137.6 per 1000 in Madhya Pradesh (NFHS-2, 1998-99).

Some of the factors and causes of child mortality may also vary across regions and also within age groups. It is common to all regions that unhygienic and unsafe environments place children at risk of death. Ingestion of unsafe water, lack of access to sanitation, diarrhoea and other health related behaviour such as birth spacing are also important risk factors for child mortality (UNICEF, 2003). Child deaths are commonly the result of risk factors. Infants aged 0-5 months who are not breastfed have seven-fold and five-fold increased risks of deaths from diarrhoea and pneumonia, respectively compared with infants who are exclusively breastfed. At the same age, non-exclusive rather than exclusive breastfeeding results in more than two-fold increased risks of dying from diarrhoea and pneumonia. Also that 6-11 month old infants as well have an increased risk of such deaths (Victoria, C.G., *et.al.*, 1989).

From the work of the World Health Organisation (WHO) on the global burden of disease, it was considered that in countries where a situation like low-income and middle income were prevalent, serious illnesses commonly occurred therefore causing deaths among the populations. Poverty/food insecurity and poor access to health services also play an important part in causes of child deaths. Other factors of child deaths also include measles, which is often accompanied by pneumonia or diarrhoea. Decreases in the immune and non-immune host defenses as a consequence of measles lead to a high rate of these subsequent infectious diseases, and also to a higher case fatality rate when they do occur. Underweight status and micronutrient deficiencies also cause decreases in immune and non-immune host defenses and is also the underlying causes of death if followed by infectious diseases (Hill, K., *et.al.*, 1998). In children, with

vitamin A deficiency and zinc deficiency, the risk of dying from diarrhoea, measles, and malaria are also usually increased (WHO, 2002).

Of the 10.8 million deaths worldwide, of children younger than 5 years, 3.9 million occur in the first 28 days of life, i.e., the neonatal period. But in some countries where mortality rates are lower than 35 per thousand live births, more than 50% of child deaths were during neonates (UNICEF, 2003). Neonatal deaths are mainly due to severe infections, asphyxia, and the complications of being born prematurely or with low birth weight. Here, tetanus is an important cause wherever immunization rates are low. And where post-neonatal deaths are prominent, pneumonia, diarrhoea, measles, pertussis and malaria are the main killers. Malnutrition is also an important contributory cause of child deaths, because the undernourished children are succumbing much more easily to the common infections such as diarrhea, measles and tuberculosis (Zurbrigg, 1984). Again, in Sub-Saharan African countries, HIV/AIDS has also contributed to the very high child mortality rates. Moreover the health of the mother and child are also inextricably linked. Poor maternal health and nutrition contribute substantially to child death and disability. Thus, maternal health also emerges as one of the most important factor to ensure optimal child development.

Vella, V. et.al paper on '*Determinants of Nutrition and Child Morbidity in North-West Uganda*' finds that the most commonly cited factors are food availability and dietary intake, breastfeeding, prevalence of infectious and parasitic diseases, access to health care, immunization against major childhood diseases, vitamin A supplementation, maternal care during pregnancy, water supply and sanitation, socioeconomic status, and health-seeking behaviour. Demographic characteristics such as the child's age and sex, birth intervals (both preceding and following), and mother's age at childbirth are also associated with child nutrition (Vella, V, *et.al.*, 1992).

Status of the Indian Child

The national figures hide vast differences within states and regions. In India there are many more child deaths in some states than in others. There are differences in every states and regions and the survey of NFHS-2 shows that more children die in villages and

in urban slum and girls are more vulnerable than boys, particularly in rural setting (NFHS-2, 1998-99).

In poverty-stricken rural households, children are more prone to malnutrition and other malnourished diseases. To a great extent, poverty also determines the health of the child. If the child does not take enough or sufficient food, chances of development are less. In India most of the children live in hunger. Even if there is something to eat, it is not enough or not the right kind of food needed for a growing body and mind in the process of formation of life. Hunger and malnutrition placed these children at disadvantage early in life. More deprivation follows, with the children more vulnerable to disease, or to discrimination because of gender or caste, or lack of family and community support. Children's chances of development are not only determined by income of their family, their chances are also influenced by their immediate and larger environment such as the primary caregiver, the parents, their family, the neighbourhood, and the community (World Bank, 2004).

It has been long recognized that mortality rates are considerably high in rural India than in the urban areas. The NFHS-3 data has confirmed that the infant mortality rate is higher in rural than in urban areas, which is 62 per thousand live births in rural areas and 42 per thousand live births in urban areas (NFHS-3, 2005-06). Several studies have indirectly provided child mortality data in relation to socio-economic groups which shows a great differences of death rates between the social-groups. In '*Rakku Story; Structure of Ill Health and the Source of Change*', Zurbrigg has shown how Banerji looks at mortality by socio-economic group. Banerji's study of nineteen villages in eight different states showed that, the number of child death was higher among the 'poor landless labourer' and Harijan compared to landowning families, in spite of a significantly lower number of births among the poor labourers. He further observes that, those villages who could not afford two square meals have a high proportion of deaths among children. Therefore, such study tells that the burden of ill-health falls most heavily on the young children of the poor. Thus the proportion of deaths is clearly related to income, poverty and hunger (Zurbrigg, 1984).

During the last decades, of every 1000 live births in India, about 40-60 do not survive beyond 28 days after the birth. And this is called the neonatal mortality rate. In

1999, the average neonatal mortality rate for India was 45/1000 live births (NFHS, 1998-99). And within India, NMR varies from a high of over 60 per 1000 live births in states like Orissa and MP to a low of around 11 per 1000 live births in Kerala. The difference between the states with the highest and the lowest neonatal mortality rates (NMRs) is more than 5 times, which indicates that how much is yet to be achieved. The NFHS-3 shows that the infant mortality rates in India have been steadily declined. The number of infant deaths per thousand live births in NFHS-1, NFHS-2 and NFHS-3 were 79%, 68% and 57% respectively.

Low birth weight is another important determinant of child mortality. Some of the reasons why new born deaths occurred in India are that, in India women in rural areas have poor access to adequate nutrition and health care before and during pregnancy (MoHFW, 2001). Children born to such women are more likely to be born with low birth weight and die from common causes early in infancy. Unless adequate care is provided to the mothers, before and during pregnancy, as well as to newborn infants at and after birth, neonatal mortality will remain high (World Bank, 2004).

Of deaths among children less than 5 years of age, significant proportions die of vaccine preventable diseases. In a country like India, many of the children deaths can be preventable if done a complete immunization. Immunization is one of the most cost-effective public health interventions available. Yet a large proportion of vulnerable infants and children in India are not receiving this simple intervention. Across India in 1998-99, only 42% of children 12-23 months had received all six of their primary immunization, with wide variation in states (NFHS, 1998-99). States with poorer immunization rates have generally higher child mortality rates. There is a steady increased in the coverage for immunization in India. The NFHS-3 shows that only 44% of the children between 12-23 months have received the primary immunization.

Child Nutrition

Child's nutrition is another important factor which helps in brain development. It has been analyzed that inadequate or inappropriate feeding practices, repeated episodes of acute infections, poor access to healthcare and general neglect cause a substantial proportion of children to become moderate or severely malnourished by the

age of 6-18 months (DWCD, 1999). It is clear that improving the child's nutrition and an increase in prenatal coverage can reduce infant mortality. It had also pointed out that in some of the places where the case studies has been conducted, it was reported that a significant number of the children below the age of 3 years were found to be suffer from endemic malnutrition. They were only partially immunized and a good number suffered from infections and other childhood diseases. Therefore priorities should be made on adequate breastfeeding, responsive feeding, care and supplemental nutrition, extending immunization and vitamin A coverage with better targeting of the vulnerable, nutritional support and increasing awareness of better childcare and feeding practices.

Many researchers have documented the presence in India of widespread child malnutrition, as measured by anthropometric indicators such as weight or height (Alessandro, *et.al.*, 2006,). The reduction of child malnutrition is certainly one of the most desirable components of economic development. Not only child malnutrition is strongly associated with increased child mortality and morbidity, but there is an ample evidence that inadequate nutrition in childhood hinders long term physical development, reduces the development of cognitive skills, and as a consequence affects negatively schooling attainment and several outcomes later in life, including productivity, mortality, and the likelihood of developing chronic diseases

The National Nutrition Monitoring Bureau (NNMB) which was established in 1972 by the Indian Council of Medical Research (ICMR) at the National Institute of Nutrition, Hyderabad, has been collecting data on diet and nutritional status of representative population groups on a continuous basis. The NNMB units are located in the states of Andhra Pradesh, Gujarat, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa and Tamil Nadu. Every year 500 rural households are covered for diet and nutrition and they observed the amount of food taken by one-day weight method. And the results of the surveys conducted every year were published as annual reports of NNMB. They also provided data on diet and nutritional status of population which had facilitated a study of relationship socio-economic indicators with diet and nutritional status in different states of India.

Malnutrition also contributes to 60% of the million deaths globally that occur every year among children less than 5 years (WHO, 2000). India continues to have one of

the highest proportions of childhood malnutrition in the world. According to the NFHS-2, 47% of children under the age of 3 are underweight, 46% are stunted and 74% between 6 months and 3 years suffer from anaemia. Malnutrition is strikingly high in states like MP 55%, Bihar 54%, Orissa 54%, and UP 52%. When we look into the NFHS-3 data, there is a seemingly surprised improvement during the past 5 years. Accordingly to NFHS-3, in 2005-06, 46 per cent of children below three years of age were underweight, 38% were stunted and 10% were wasted. Comparable figures for NFHS-2 (1998-99) are 47, 45.5 and 15.5%, the situation being worse in rural compared to urban areas to the data.

Undernutrition among children are not only caused by food insecurity or lack of food, but also due to inappropriate infant feeding and care practices, lack of safe drinking water and sanitation resulting in frequent infections and poor access to health care which is both preventive and curative (Ghosh, S., 2007). Immunization coverage which is an easily identifiable health care input has only marginally improved from 36% in NFHS-1 (1992-93) to 44% in NFHS-3 (2005-06). Infant feeding practices, for example, offering semisolids to the child between 6-9 months has shown some improvement in most states and particularly in Gujarat, Jammu and Kashmir, Karnataka, Maharashtra, Madhya Pradesh, Orissa, Rajasthan, Tamil Nadu and Uttar Pradesh. It is obvious, that it is the household feeding that has the key to improving nutrition in the first two years.

Nutrition also has major effect on health. A number of factors affect child nutrition either directly or indirectly. D. Banerji has cited that the root causes of nutritional disorders are ecological, social, economic and political conditions. In his paper *'The Knowledge of Human Nutrition and the Peoples of the World'*, he pointed out that when these factors generate conditions, where people are not able to eat well or are forced to live under bad environmental conditions, then it leads to various deficiency disorders. Further he points out that calorie deficiency is by far the most common nutritional disorder in the developing countries and that protein deficiency symptoms are not common (Banerji, 1988). The other major reasons for undernutrition and inadequacy of dietaries, cited by Gopalan, has never been the lack of food at the overall national level, but the fact that the income of the households are so low that they just cannot command access to food in quantities which is necessary to meet the basic nutritional needs (Gopalan, C., 1992).

D. Banerji further pointed out that hundreds of millions of people in the developing countries are unable to get the minimum calorie requirements because they do not have enough resources to buy food and they are poor. Because of poverty they live under miserable environmental conditions. The environment is bad in terms of access to protected drinking water supply, facilities for disposal of wastes, infestations with parasites and pests, housing, clothing, and so on. As a result they have high rates of mortality and morbidity (Banerji, 1988). Rich and privileged people everywhere eat all they need and perhaps more. The poor will take only what they can afford which may not always fully meet their needs (Sukhatme, 1972). Sukhatme's paper on '*India and the Protein Problem*', revealed that enough proteins and calories are important for a child to have a normal healthy life, but in India, there exists protein deficiency and is widespread and the population are not getting adequate protein from their diet.

For very young infants, needs a higher proportion of protein and higher percent of calorie which is usually provide in the form of breast milk. If the mother's diet is adequate this will be sufficient for the first 3-6 months of life (Sukhatme, 1972). After this, however solid supplements of calories and proteins are essential. But starchy food, provide calories and little protein, there is a risk that the mixed diet may fall below the needed for adequate growth and the child may become prone to develop protein deficiency (Sukhatme, 1972).

In most parts of India the staple foods are cereal, rice, wheat, jowar (sorghum), bajra (millet) etc, and accompanied by minimal amounts of pulses and vegetables. Any depression of food intake occasioned by infection, by marginal deficiency of mineral or vitamins or by economic factors would result in a calorie intake less than the minimum requirement would expose the child to risk of protein deficiency (Gopalan, C., 1973). This signifies that children are more demanding than adults in their requirements and it is easier to meet their needs with good foods like eggs and milk if one could afford them.

Protein deficiency leads to Kwashiorkor and this problem arises when there is low protein consumption and is more common among children who are undernourished compared to well-fed children. Therefore, it is evident that ensuring a smooth transition from breastfeeding to an adequate solid diet is important. Not more than 5-6 percent of the calories in the breast milk are derived from protein and yet it is known to be an ideal

infant food (WHO, 1978). If breast milk fails to meet the nutritional requirements of the infant after the first 6-8 months, it is not because its protein content is low, but because it is just not available in adequate amounts to satisfy the appetite of a growing infant (Gopalan, C., 1973). Moreover care is needed to be exercised in order to ensure that it is given in an appropriate form which enables the infant to consume sufficient quantities to meet his energy needs.

Clearly what a child of one to three years needs most is a supplement of concentrated source of calories, such as milk or eggs. If protein-rich weaning foods are advocated it would not be because of their high quality protein alone. In addition, they would contain a concentrated source of calories such as oil or sugar which would reduce the volume of the meal and could also provide vitamins and minerals. Protein foods which do not bring adequate calories to synthesize protein in the diet clearly cannot be expected to make any significant contribution to the solution of the protein problem (Sukhatme, 1972). While the fact is that, an inadequate quantity of food and not protein is the primary problem in the dietary of the poor. To add protein or upgrade its quality would merely provide a costly source of calories to make up the calorie deficit.

Gopalan's paper on '*Effect on Calorie Supplementation on Growth of Undernourished Children*' argued that generally most believed that major reason for the widespread malnutrition and growth retardation in early childhood in many countries in the world is the existence of a "protein gap" in the diets of the children in these countries. But most people use the term protein-calorie and then proceed to discuss calorie. Direct assessment of the dietary intakes of a large number of pre-school children carried out by experienced and trained investigators in a coordinated, countrywide study in India showed that the current dietaries of pre-school children, the major bottleneck was calories and not protein (Gopalan, C., 1973).

Moreover, many researchers have found that the nature and impact of nutritional deficiency also depends on the timing of the deficiency. Especially the first three years are critical periods for the development of an important function such as binocular vision, emotional control, habitual ways of responding-all of which influence lifelong learning and achievement (World Bank, 2004).

During the last fifty years, India has also been making a significant progress in fulfilling her child's right to survival and development. For instance, there has been a sharp decline in childhood mortality from 242 deaths per thousand births in 1960 to 93 in 2002, and also in the incidence of Vaccine Preventable Diseases, especially in neonatal tetanus and polio. The Integrated and Child Development Scheme (ICDS) also have been expanded to improve access to nutritional health of the children and pregnant women (World Bank, 2004). There has been progress to some extent in improving the quality as well, but the overall picture is still cannot considered as satisfactory. A large number of children still continue to live in economic and social environments which blocks or delay their physical and mental development. These conditions include poverty, poor environmental sanitation, disease, infection, inadequate access to primary healthcare, inappropriate child caring and feeding practices.

Maternal Health and Nutrition

Maternal health is equally important for children to have the overall development. Even during the pre-birth of the child and even before it becomes visible in picture, the health of the mother is important as it can determine the health of the baby and her chances of having a healthy life. These are being determined by the mother's overall health affected particularly by her nutrition, her age at marriage and delivery, the spacing of her pregnancy and her weight. If the mother is malnourished or anaemic, then an important factor for her survival and growth is affected (World Bank, 2004). And if the mother is young and low at her age of marriage which is below the normal age, then her chances for having safe delivery of a healthy infant is less, and if the spacing between her pregnancies is too brief, then her poor health may tell on the infant she delivers. The World Health Organization had pointed out the ideal candidate for a pregnant woman and a delivering mother, which is, someone who has not got married or got pregnant too young, someone whose pregnancy has been spaced out, someone who has education and has awareness about antenatal care and nutrition practices. Thus, maternal health emerges as the most important factor to ensure optimal child development and the nutrition of the pregnant woman emerges as a key policy priority.

The next important and critical issue is a safe delivery by trained attendants. Despite various programmes promoting institutional and delivery by trained attendants, some studies reported in some parts of India such as Andhra Pradesh, Karnataka and Uttar Pradesh, most of the delivery took place at home. Therefore poor environmental hygiene, lack of safe water and poor sanitation also affected the safety of these home deliveries.

Next is about the infant's weight at birth. This is an important issue and according to NFHS-2, one-third of all births in the country are below the minimum acceptable birth-weight of 2500gms. Despite the anganwadi worker and monthly visits by the ANMs, there is still inadequate nutrition during pregnancy and a general low level of awareness about antenatal care or immunization. In the Indian situation, the problem is more acute and concentrated in the central and northern parts of the country such as Haryana, Gujarat, Maharashtra and Punjab, where also there is low female literacy (UNICEF, 2004). Here the social reality is that low literacy, poor health and nutritional status, all factors associated with poverty contributes to poor foetal growth in pregnancy. Therefore this poor beginning of the child effects and hinders the child's development in the years to come.

Maternal nutrition which is an important determinant of child's health has been analyzed in various literatures. The importance of maternal nutrition saying that since the mother has to nurture the foetus; her nutrition has a direct relationship to birth weight. Several surveys have shown that most mothers are under-weight (weighing less than 50 kg) and have an inadequate intake of calorie for a normal pregnant mother (Ghosh, S., 1976). And that in some rural parts of the country, mothers of the poor community are doing hard physical work throughout pregnancy and it is estimated that they would need another extra calorie during a day (ICMR, 1990). The recommended daily energy intakes for Indian women weighing 35, 40 or 45 kg (age group 18-30 years, moderate workload) are 1,824, 1,957 and 2,090 kilo calorie per day respectively, plus 300 kilo calorie during the last two trimester of pregnancy (ICMR, 1990). In many parts of the rural areas that belong to the low socio-economic groups, their daily food intake is monotonous, consisting of the same meal pattern and the same food items. But in many parts of the country, there are taboos and prejudices regarding the diet of the pregnant women. In

some cultures, a positive effort is made to keep the weight gain low and thus it is thought to facilitate delivery. The custom of eating less during pregnancy was practice with the hope of having small child and thus an easy delivery (Nichter, M., and Nichter, M., 1983). On the contrary, another practice of eating smaller amount of food during pregnancy was believed to have a positive effect on the foetus so that the child would have more space in the stomach to move, to develop well and even to grow bigger (Hutter, I., 1994).

Malnutrition during pregnancy contributes significantly to high rates of pregnancy wastage, maternal mortality, low birth weight babies, infant mortality and low nutrient stores in infants as well as mothers during lactation. Among those consuming less food and having pregnancy wastage are more prone to having anaemia and thus becomes responsible to maternal deaths. Anaemia in women and infants results in a compromised immune system making them more susceptible to disease (Nichter, M., and Nichter, M., 1983). In India, there are traditional beliefs and practices regarding food items a pregnant women should or should not eat and about the proper amount of food desirable for a pregnant woman for successful reproductive outcome (Nag, Moni, 1994). Therefore to some extent, traditional beliefs and practices has also played an important role in the health condition of the mother and the child.

In India, the main cause of undernutrition in the mother is the insufficient intake of food and unequal distribution of food within the family. In rural villages and in most parts of the country, most mothers feed their husbands and their children and other family members first and then eat whatever is left over. This is usually inadequate in quantity and quality and thus leads to deficiency of the important minerals. It was suggested that high priority should be given to providing expectant and nursing mothers with adequate medical care and good nutrition. Low birth weight and immaturity can be traced at least in part to poor maternal nutrition. Repeated pregnancies further cause malnutrition and anaemia in the mother, again pre-disposing to low-birth weight, which results in a higher death rate (Ghosh, S., 1976).

Integrated Child Development Services (ICDS)

The Integrated Child Development Services (ICDS) programme, which now covers almost all development blocks in India, is potentially well-poised to address some

of the underlying causes of undernutrition. The programme adopts a multi-sectoral approach to child well-being, incorporating health, education and nutrition interventions, and is implemented through a network of 'anganwadi' centres (AWCs) at the community level. At these centres, anganwadi workers (AWWs) and their helpers provide eight key services to 0- to 6-year old children and mothers, including supplementary feeding, immunisation, health check-ups and referrals, health and nutrition education to adult women, micronutrient supplementation, health referrals and preschool education for 3- to 6-year olds. As the programme has developed, it has expanded its range of interventions to include components focused on adolescent girls' nutrition, health, awareness, and skills development, as well as income-generation schemes for women.

An article by Michelle Gragnolati – '*ICDS and Persistent Undernutrition: Strategies to Enhance the Impact*' - examines the effectiveness of the Integrated Child Development Services programme in addressing the challenge of child undernutrition in India (Gragnolati, M., 2006). It finds that although the ICDS programme appears to be well-designed and well-placed to address the multidimensional causes of malnutrition in India, there are several mismatches between the programmes design and its actual implementation that prevent it from reaching its potential. These include an increasing emphasis on the provision of supplementary feeding and preschool education to children aged four to six years, at the expense of other programme components that are crucial for combating persistent undernutrition; a failure to effectively reach children under three and, ineffective targeting of the poorest states and those with the highest levels of undernutrition which tend to have the lowest levels of programme funding and coverage. In addition, ICDS faces substantial operational challenges.

The study conducted by the Nutrition Foundation of India evaluated the impact of the nutrition component of various Government Programmes dealing with nutrition (Nutrition Foundation of India, 2005). The main aims of the ICDS Programmes were improving growth and development during the critical intrauterine period, infancy and early childhood by providing an integrated package of nutrition, health and education services right in the vicinity of both, urban and rural population. This article examines data from the National Family Health Survey-2 1998-99 (NFHS-2) which indicates that exclusive breastfeeding among infants in the age group of 0-3 months was only 55.2%,

and 33.5% infants in the age group 6-9 months received breast milk and semi-solid food. In an attempt to improve appropriate complementary feeding, a nationwide programme Pradhan Mantri Gramodaya Yojana (PMGY) (Prime Minister's Rural Development Programme) for providing take-home weaning foods for one week to below poverty line (BPL) families with infants between 7-12 months of age was initiated in 2002-03. An experience gain in the last three years indicates that merely making financial provisions does not result in increase in the number of under-three children getting food supplements, and improvement in timely introduction of complementary feeds. Surveys carried out by the National Nutrition Monitoring Bureau 1999 (NNMB) had shown that over the last three decades there was no increase in the dietary intake of pre-school children. Lack of knowledge on child feeding, rearing and caring practices were major factors responsible for the low dietary intake in pre-school children. Time trends in nutritional status of pre-school children from NNMB and NFHS (2001) surveys showed that over 45% of the pre-school children were under nourished. Budget of the Department of Women and Child Development for the year 2005-06 was Rs. 35000 million for ICDS. But increase in the number of children in the 6-36 months age group or 3-6 years age group receiving food supplements through ICDS during the nineties was not commensurate with increase in the number of ICDS blocks.

It appears that the nutrition component is well accepted by the population, but it is functioning more as a social welfare programme rather than a nutrition programme. The norms for funding ICDS programmes are uniform. Currently it is envisaged that 102 individuals per anganwadi should receive food supplements. But, as there is great difference in the percentage of BPL families and birth rates between states and districts, the number of persons who require food supplements in the anganwadi would also vary. Often the neediest persons are not identified and food supplements are not given according to their need. The most needy segments, that is children aged 6-36 months and women who are not able to come to the anganwadi, do not receive the food.

Infant feeding practices and child nutrition have significant effects on child survival, maternal health and fertility. Breastfeeding improves the nutritional status of young children and reduces morbidity and mortality. Breast milk not only provides the child with important nutrients but also protects the child against infection. The timing and

type of supplementary foods introduced in the infant diets also have significant effects on the nutritional status of the child. But in India there are major number of problems related to hunger and malnutrition. When discussed this, it is not unusual to come across an emphasis on the cultural and traditional outlook of the common people. An article by Imrana Qadeer- *India's feeding Programmes and their Relevance*, examines some nutrition policy in the total context of the total development strategy. This paper brings out the importance of having an integrated programmes and making the health priorities so that it effects the vulnerable population and provide a relief measures for them (Qadeer, I., 1978). More than cultural backwardness and traditional outlook, important issues lies in planning and policy making. But these were affected by the existing socio-economic and political structure of the society that they become practically irrelevant. Therefore the inadequacy of resources, the inefficiency of delivery services and the maldistribution of available resources combine ineffective all welfare programmes for the poor (Qadeer, I., 1978).

Undernutrition in children is the consequence of a range of factors which are often related to insufficient food intake, poor food quality, and severe and repeated infectious diseases. The inadequacy is relative to the food and nutrients needed to maintain good health, provide for growth and allow a level of physical activity. Widespread poverty resulting in chronic and persistent hunger is the biggest scourge of the developing world today. Poverty, in turn, is closely linked to the overall standard of living and whether a population can meet its basic needs, such as access to food, housing, health care and education (Rao, Rama, G., *et.al.*, 2004).

In order to understand the situation of a child's health, it is important first to look into more detail at the types of diseases that are prominent in childhood. Most of the childhood diseases are preventable. So it is important to put an emphasis on preventive programmes, including nutrition education, immunization, and environmental sanitation. There are also other factors which could cause childhood illnesses at different point of time. For instance, a malnourished child has a 400 times greater risk of dying from measles than a nourished child. Unlike the other organs of the body, the brain is not fully developed at the time of birth (Bo Balldin, *et.al.*, 1975). So the first six months of life are extremely important as the brain may suffer for the rest of life if the child is not getting

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enough good food. Therefore the type and quantity of food a child eats is one of the biggest factors influencing his health.

Breastfeeding

The Nutrition Foundation of India has studied infant feeding practices with special reference to the use of commercial infant foods. The study was conducted in three major regions of India, in Maharashtra, West Bengal and Tamil Nadu. One of the important findings was that in Maharashtra among 80 percent of infants, breast feeding was initiated only on or after the third day after birth and only 3 percent of infants received breast milk within 24 hours from birth. On the other hand, in West Bengal, breastfeeding was initiated within 24 hours in nearly 50 percent of all infants and only one-third of all infants had to wait till the third day after birth to receive breast-feeds. Thus the habit of discarding colostrum was much less evident in West Bengal than in Maharashtra (Gopalan, C., 1985).

The depressing feature in West Bengal is that though mothers had started breastfeeding early, majority of them were unable to feed their infants exclusively on breast milk for even up to 3 months. Thus, the percentage of exclusive breast-fed infants had declined to 50 percent by the end of the second month to 35 percent by the end of the fourth month, and to 20 percent by the end of the sixth month. Thus nearly two-thirds of poor mothers in West Bengal were not feeding their infants exclusively on breast milk for even up to four months and indeed nearly half of them were unable to do so for even up to two months. In contrast, mothers in Maharashtra were apparently better able to maintain exclusive breastfeeding, thus, 85 percent of these mothers were still feeding their infants exclusively on breast milk till after the second month, nearly two-thirds till after the fourth month, and nearly 40 percent till the end of six months (Gopalan, C., 1985).

Unlike those in Maharashtra, mothers in West Bengal find it necessary to introduce supplements to breast milk before the third month and continue to breast feed along with supplements for as long and indeed apparently even longer than mothers in Maharashtra or Tamil Nadu. It is probable that if mothers could breast feed their infants

successfully, and then it must be related to differences in the health/nutrition status of the mothers.

The major types of food supplements among all infants in these states are animal milk, commercial milk, cereals and pulses. The very poor use of cereals and pulses in infant as infant feeding supplements in West Bengal is particularly noteworthy.

Gopalan paper on 'Stunting – *Significance and implications for public health Policy*', identifies that in most developing countries, the remarkable ability of the poorest women were that to successfully breast-feed their infants for prolonged periods and it has been the most valuable national asset in child nutrition scene. Some studies have shown that there is a growth faltering in breastfed infants as it is detectable by the end of the second month after delivery. This may be related to faulty-feeding practices like offering water to the infants in between feeds or not putting the infant to the breast as often as may be necessary. In such cases mothers should be advice to continue with exclusive breastfeeding of their infants until the end of the fourth month if not the sixth month (Gopalan, C., 1972). In fact, a study carried out by the Nutrition Foundation of India has shown that infants who received supplements before the fourth month shows poorer nutritional status than those who had been exclusively breastfed for four to six months.

Perceptions on health and illness can be affected in many ways by people's beliefs and practices. Health problems of any group or an individual can be affected by a magnitude of community perspectives. What is illness to one society may not be a problem to the other. Every society has its own ways of defining illness and health. Bharati's paper on '*Beliefs and Practices Related Parturition among the Konda Reddi of Andhra Pradesh*' observed that infants were given more attention like bathing twice a day, but children were not seen to take bath frequently. Infants were mostly taken care by the mother or elder sister and rarely by their grandmothers. The infant, though is given bath twice a day, is mostly kept naked and are often prone to burn injuries in winter. General poverty among the Konda Reddi tribe is evident because of loss of minor forest produce (Bharati, 2006).

Moreover their diet pattern indicates the undernourishment and malnutrition these children are suffering from. Immunization is feared for children and mothers are not willing to take their children for immunization. They believed that if the child is not ill,

then why they should be given any injection. In Konda Reddi villages, babies are exposed to soaking rain, chilling breeze and have inadequate clothing and proper ventilation. This contributes to respiratory disorders. Malnourished children are more likely to suffer from Pneumonia, whooping cough or measles compared to healthy children (Bharati, 2006).

In poor communities, infections account for much of the undernutrition and stunting children. Therefore, what is more important than the extension of government health facilities is the need to develop programmes within the villages in order to improve self-reliance and health/nutrition awareness of the community and to involve the community in its own health-care operations (Gopalan, C., 1972). While a different type of action is needed to rectify the root cause of undernutrition in children, it is important to launch a large scale supplementary nutrition programmes to provide protection to the particular vulnerable groups in the community (Banerji, 1988). One important aspect of nutrition policy is the plan for protecting the vulnerable groups through nutrition distribution programmes (Qadeer, I., 1978).

Rationale of the study

After exploring the children's health, it is clear that in India, children's health is still gloomy. There are various factors contributing to their mortality and morbidity. The rational force for the study here is to explore the health of the children in North East states vis-à-vis India. The focus is the first three years of life as it is important formative years and malnutrition in child usually occur during the first 3 years of life, children are likely to die due to it and have a greater risk in the years later. In the north eastern states of India, not much of the literature on child health could be found and less research has been also done on these issues. The main focus of the study is child welfare programmes and services that are available, and how far these interventions are effective and reach to the targeted population.

Based on national surveys and census, the study understands the health indicators across North East region vis a vis India. The study also aims to gather relevant information about the health condition of children below 3 years of age. In order to explore these issues at a micro level, a case study of a village Saikot has been selected purposively. The study aims to explore the existing child welfare programme, through

interviews with mothers (having children below three years, purposively selected), ANMs, Anganwadi workers, Health personnel and village secretary.

Objectives

1. To compare the children's health indicators across North East states vis-à-vis all India.
2. To understand perceptions and practices related to breastfeeding, nutrition and childhood illnesses.
3. To study child welfare programmes in India.
4. To study the perceptions, practices related to child health and explore the functioning of child welfare programmes in the village, Saikot.

Method, Tools and Techniques

1. The study is largely review based, substantiating with a case study of the village.
2. The study reviews the literature, research articles, NFHS and other surveys, census and government records, on the comparative picture of children's health across North Eastern states in India.
3. The study was conducted in Saikot village in Churachandpur District, Manipur in the month of December 2007 till Mid-January 2008. The village with Primary Health Centre (PHC) was selected purposively. Direct observation, case studies, in-depth interviews and interview schedules were used to collect the primary data.
4. The study was conducted among 20 households where in-depth interviews were conducted, where the respondents were mothers of 0-3 year's old children. Health personnels such as ANMs, Doctors and Anganwadi worker were also interviewed. Moreover, the village secretary and other members of the village were also interviewed to extract the profile of the village.
5. The study also attempts to explore the child welfare programmes. The study would explore the perceptions and practices related to breastfeeding, nutrition and immunization and their response to health problems and health seeking behaviour.

6. Interview schedules, in-depth interviews and direct observations were used as tools and techniques.
7. Data and information were collected from households which were chosen with the help of Anganwadi workers since every household does not have children below 3 years of age. One MO, three ANMs, three Anganwadi workers, Village Secretary and twenty mothers were interviewed who were purposively selected.

CHAPTER 2

CHILDREN'S HEALTH STATUS IN THE NORTH EAST STATES

The North Eastern region of India comprises of eight states which are, Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, and Tripura. According to census of 2001, all the states except Tripura have a growth rate higher than the national average which is 21.54%. The decadal growth rate is highest in Nagaland which is 64.53% and is lowest in Tripura with 16.03%. And the sex ratio is highest in Manipur with 978 per thousand males and is lowest in Sikkim which has 875 per thousand males, lower than the national average, 933. The north east region has different socio-cultural beliefs and practices and is rich in biodiversity. The total population of these states is about 4 crore of which nearly 3.50 crore people live in rural areas. (Census, 2001).

The table 2.1 shows the decadal growth rate and sex-ratio and population census in the eight northeast states and India. The decadal growth rates during 1991-2001 shows that all the states, except Tripura, have a growth rate higher than the national average. And in Assam and Tripura, growth rate were low which is 18.92 and 16.03 percent respectively. But in Nagaland, it is significantly high with 64.53 percent during the year 1991-2001. The sex-ratio per thousand males in the north east regions is low in states like Arunachal Pradesh and Sikkim with 893 and 875 respectively. But in Manipur, it is 978 which is above the national average, 933. The total population is highest in the Assam state with 2.6 crore and lowest in Sikkim with 5.4 lakhs.

Table 2.1 Decadal growth rate, sex ratio and population census in North East region compared to all India

States	Decadal growth rate (1991-2001)	Census Population 2001	Sex ratio per thousand males
India	21.54	1028610328	933
Arunachal Pradesh	27.00	1097968	893
Assam	18.92	26655528	935
Manipur	24.86	2166788	978
Meghalaya	30.65	2318822	972
Mizoram	28.82	888573	935
Nagaland	64.53	1990036	900
Sikkim	33.06	540851	875
Tripura	16.03	3199203	948

Source: Census: 2001

Nutritional status

Recognising the need for up scaling awareness about nutrition and health in the North East region, the Food and Nutrition Board Department organised a North East Consultation Meet on Nutrition at Shillong on 17th – 18th February 2005 with active support from the Government of Meghalaya and UNICEF. The pictures that emerged from several expert presentations both by the Department as well as by eminent experts from other institutions and UNICEF is not very optimistic. The nutrition and health status of children and women in North East is far from satisfactory. For instance, the anaemia levels in women are quite high and under 5 mortality rates are also high across the states as shown by NFHS – 2 reports. The levels of anaemia among women as shown by the NFHS-2 are Manipur 56.1%, Arunachal Pradesh 98.1%, Assam 89.5%, Meghalaya 122.0%, Mizoram 54.7%, Nagaland 63.8%, Sikkim 71.0% of which the all India figure is 94.9%.

Nutritional status is a major determinant of the health and well being of children. Inadequate or imbalanced diets and chronic illness are associated with poor nutrition among children. Breast feeding improves the nutritional status of young children and reduces morbidity and mortality. It also protects the child against infection from early childhood diseases but the mothers who are not well nourished and who are in poor health themselves may not be able to provide adequate breast milk for their children.

The next table 2.2 gives the nutritional status of children in NE under age 3 who are considered as stunted, wasted and underweight compared to the national figure India. Stunted is define as too short for age, wasted as too thin for height and underweight as too thin for age.

Table 2.2 Nutritional status of children under age 3 across states in North East Region Compared to India (in percentage)

States	Stunted	Wasted	Underweight
India	38	19	46
Arunachal Pradesh	34	17	37
Assam	35	13	40
Manipur	25	8	24
Meghalaya	42	28	46
Mizoram	30	9	22
Nagaland	30	15	30
Sikkim	29	13	23
Tripura	30	20	39

Source: NFHS-3: 2005-06

The nutritional status of children in the North East states from the NFHS-3 shows that children were found to be stunted, underweight and wasted. In the NFHS – 2, it was found that in all the North East states, more than a quarter of all the children aged 1-35 months were stunted and more than 1/5th were underweight.

In table 2.2, the percentage of children below 3 years of age who are stunted, wasted and underweight is all highest in Meghalaya with 42, 28 and 46 respectively which are above or the same with the national average, 38, 19 and 46 respectively. Manipur and Mizoram states shows better health indicators with the percentage of children stunted, wasted and underweight being low compared to the other North East States and India.

Anaemia

Anaemia is a serious concern for young children, because it can result in impaired cognitive performance, behavioural and motor development, coordination, language

development as well as increased morbidity from infectious diseases. One of the most vulnerable groups in children is between ages 6-35 months.

Table 2.3 Children age 6-35 months with anaemia in NE states compared to India

States	Percentage of children age 6-35 months having iron-deficiency anaemia			
	Percentage of child with Anaemia	Mild anaemia	Moderate anaemia	Severe anaemia
Arunachal Pradesh	54.5	29.1	24.7	0.7
Assam	63.2	31.0	32.2	0.0
Manipur	45.2	22.6	21.7	0.9
Meghalaya	67.6	23.4	39.8	4.3
Mizoram	57.2	32.4	22.7	2.3
Nagaland	43.7	22.0	18.7	3.0
Sikkim	76.5	28.4	40.7	7.5
India	74.3	22.9	45.9	5.4

Source: NFHS- 2: 1998-99

Children between the ages 6-35 months with anaemia are highest in Sikkim with 76.5 percent which is above the national average of 74.3 percent and the lowest is in Manipur with 45.5 percent. All the states shows that more than 50 percent of children age 6-35 months in the states are anaemic.

Breastfeeding

Infant feeding practices have significant effects on both mothers and children. Prolonged breastfeeding helps to extend period of postpartum infertility and hence on fertility levels and the length of birth intervals. These effects vary by both the duration and intensity of breastfeeding. Proper infant feeding, starting from the time of birth is important for the physical and mental development of the child. In all the north east states the percentage of breastfeeding who starts within one hour of birth is higher than the national average which is 23.4 percent (NFHS-3, 2005-06)

Table 2.4 Child Feeding Practices in North East States and India

States	Children under 3 years who are breastfed within 1 hr of birth (%)	Children age 0-5 exclusively breastfed (%)	Children age 6-9 months receiving solid or semi-solid food and breast milk (%)
India	23.4	46.3	55.8
Arunachal Pradesh	55.0	60.0	77.6
Assam	50.6	63.1	59.6
Meghalaya	58.6	26.3	76.3
Manipur	57.2	61.7	78.1
Mizoram	65.4	46.1	84.6
Nagaland	51.5	29.2	71.0
Sikkim	43.3	37.2	89.6
Tripura	33.1	36.1	59.8

Source: NFHS-3 (2005-06)

From the above table, the figure shows that in North East states, children under 3 years of age who are breastfed within one hour of birth is highest in Mizoram with 65.4% and is lowest in Tripura which is 33.1%, but it is still higher than the national average which is 23.4%. Children between the age group of 0-5 months who are exclusively breastfed is highest in Assam with 63.1% and is followed by Manipur with 61.7%. Meghalaya states show poor exclusive breastfed with only 26.3% which is lower than the national average 46.3%. In the North East states the percent of children age 6-9 months receiving solid and semi-solid food and breast milk is showing better indicators than the national average which is 55.8% and Sikkim has the highest indicators among the states which is 89.6%.

Vitamin A Supplementation

Vitamin A deficiency is one of the most common nutritional deficiency disorders in the world, affecting more than 250 million children world wide. The national

programme on prevention of blindness targets children age under 5 years and administers oral doses of vitamin A every six months starting at 9th month of age. Between the age group 0-3 years, the child is vulnerable to vaccine preventable diseases, particularly, if already poorly nourished, and living in surroundings with poor hygiene and sanitation. So, complete immunization and vitamin A supplements during this period are critical for the child's future development besides sound nutrition.

The table 2.5 shows the percentage of vitamin A supplementation for children by the state. It is the percentage of children age 12-35 months who received at least one dose of vitamin A within the six months preceding the survey by the state, India, 1998-99. The table 2.5 shows the percentage of vitamin A supplementation of children age 12-35 months of different states in north east India. Tripura is not included in the table, as the NFHS 2 did not collect data from this state. The highest percentage who received both at least one dose of vitamin A supplementation and at least one dose within the past 6 months preceding the survey in Mizoram with 70.6% and 41.8 respectively, which is much better than the national average 29.7% and 17.1% respectively. While Assam and Nagaland states show low percentage received of Vitamin A (at least one dose) with 15.4% and 6.8% and (at least one dose within the past 6 months) with only 8.9% and 4.4% respectively. Manipur is the 3rd highest with 38.4% and 18.8% among the NE states and it is both above the national average.

Table 2.5: Vitamin A supplementation for children age 12-35 months in the North East states and India

States	Percentage who received Vitamin A	
	At least one dose	At least one dose within the past 6 months
India	29.7	17.1
Arunachal Pradesh	20.9	9.6
Assam	15.4	8.9
Manipur	38.4	18.8
Meghalaya	24.7	10.7
Mizoram	70.6	41.8
Nagaland	6.8	4.4
Sikkim	45.8	22.0

Source: NFHS 2, 1998-99

Acute respiratory infection, Fever and Diarrhoea

Acute respiratory infection is a major cause of illness among infants and children and is one of the leading causes of childhood mortality throughout the world. Early diagnosis and treatment can prevent a large number of ARI (pneumonia) deaths. 19% of children under age 3 years in India suffered from ARI. Four states of north east, Arunachal Pradesh, Manipur, Meghalaya, and Sikkim have a high prevalence rate of ARI with 25.4%, 26.9%, 28.8%, 30.0% respectively which is more than the national average of 19.3%. And in Manipur 26.9% of children suffered from ARI which is very much high compared to all India average of 19.3%. (NFHS 2, 1998-99)

Fever accompanied by acute respiratory infection and diarrhoea is also a major cause of death during an early childhood. The national average prevalence of fever is 29.5%. The prevalence in North East varies from 28.4% in Assam to 41.2% in Meghalaya. And the prevalence in Manipur is 36.8% which is much higher than the national average (NFHS 2, 1998-99).

Diarrhoea is one of the 2nd highest killer of under age 5 worldwide followed by ARI. Deaths from acute diarrhoea are most often caused by dehydration due to loss of water and electrolytes. Nearly all dehydration related deaths can be prevented by prompt administration of dehydration solution, because deaths from diarrhoea are a significant proportion of all child deaths. The Government of India has launched the Oral Rehydration Therapy (ORT) programme as one of its priority activities for child survival.

The table 2.6 shows the prevalence of ARI, fever and diarrhoea by different states of the north east. It is the percentage of children under age 3 who were ill with a cough accompanied by fast breathing (symptoms of ARI) fever or diarrhoea and percentage with ARI who were taken to health facility or provider. Among the states, the prevalence percentage in cough accompanied by fast breathing ARI is highest in Sikkim with 30.0 and Mizoram is the lowest with 11.2. Manipur is the 3rd highest with 26.9 which is higher than the national average 19.3. The prevalence percentage of fever is highest in Meghalaya with 41.2 and lowest in Assam with 28.4. In Manipur it is 36.8 which is higher than the national average of 29.5. The prevalence percentage of any diarrhoea is highest in Sikkim with 31.0 and is lowest in Assam with 8.2 while in Manipur it is 16.6, a bit better than the national average 19.2.

Table 2.6: Prevalence of ARI, fever and diarrhoea by state (in percentage)

States	Cough accompanied by fast breathing ARI	Fever	Any diarrhoea	Diarrhoea with blood	Percentage with ARI taken to health facility provider
Arunachal Pradesh	25.4	38.5	23.4	3.0	49.2
Assam	17.3	28.4	8.2	2.2	49.2
Manipur	26.9	36.8	16.6	4.1	41.7
Meghalaya	28.8	41.2	21.8	6.1	45.0
Mizoram	11.2	35.9	23.0	3.5	48.7
Nagaland	18.4	34.0	21.7	2.6	51.0
Sikkim	30.0	31.3	31.0	2.5	28.0
India	19.3	29.5	19.2	2.6	64.0

Source: NFHS -2 (1998-99)

Child immunization

Again, the NFHS -2 survey shows that the nutritional status of children deteriorated rapidly after birth and stabilised after 18 months of age in all the states and in the region as a whole. The trends in vaccination coverage, from NFHS – 3, are that 47% of children between 12-23 months have received recommended vaccines in Manipur. Sikkim have the highest coverage with 70%, Mizoram 64%, followed by Assam, 61%, and Arunachal Pradesh 28% and Nagaland 21% with the lowest coverage.

The infant mortality rate across the region is different where Assam is the highest with 66 per thousand live births and lowest in Manipur with 30 which is lower than the national average 57 per thousand live births as shown in table 2.7. The neonatal mortality rate is highest in Meghalaya which is 51 per thousand live births and is lowest in Both Manipur and Mizoram with 19 per thousand live births respectively.

Table 2.7: IMR and NNR per thousand live births in North East states compared to India

States	* IMR (per 1000 live births)	**NNR (per 1000 live births)
India	57	44
Arunachal Pradesh	61	42
Assam	66	45
Manipur	30	19
Meghalaya	45	51
Mizoram	34	19
Nagaland	38	20
Sikkim	34	26

Source: ^{**}NFHS-2, 1998-99 & ^{*}NFHS-3, 2005-06

The vaccination of children against six serious but preventable diseases (TB, diphtheria, pertussis, tetanus, poliomyelitis and measles) has been a cornerstone of the child health care system in India. As part of the national health policy, the National Immunization programme is being implemented on a priority basis. The expanded Programme of Immunization was initiated by the GOI in 1978 with the objectives of reducing morbidity, mortality and disabilities from these six diseases by making free vaccination services easily available to all eligible children.

The table 2.7 shows that the highest percentage who received ‘all’ vaccination is in Mizoram with 59.6% followed by Manipur 42.3% and the lowest in Meghalaya with 14.3% and Nagaland 14.1% which is much lower than the national average 42.0%.

Table 2.7: Percentage of children 12-23 months who received specific vaccinations

State	BCG	Polio	DPT			Polio			Meas les	all	none
			1	2	3	1	2	3			
India	71.6	13.1	71.4	65.0	55.1	83.6	78.2	62.8	50.7	42.0	14.4
AP	54.2	4.5	57.4	52.7	41.8	67.6	62.5	43.3	33.6	20.5	28.7
AS	53.5	3.1	57.4	48.5	37.5	61.8	53.6	37.9	24.6	17.0	33.2
MN	71.0	32.1	76.4	71.0	59.1	81.3	76.9	62.5	45.8	42.3	17.2
MG	46.1	11.5	44.8	36.8	25.4	51.8	43.8	27.6	17.7	14.3	42.3
MZ	88.2	4.6	86.9	83.9	69.5	88.3	83.5	71.9	71.0	59.6	10.5
NG	46.1	5.5	48.1	40.9	29.6	66.6	60.3	41.8	19.6	14.1	32.7
SK	76.5	8.2	75.7	71.7	62.5	79.8	75.7	63.5	58.9	47.4	17.6

Source: NFHS 2, 1998-99

Note: AP-Arunachal Pradesh, AS-Assam, MN-Manipur, MG-Meghalaya, MZ-Mizoram, NG-Nagaland and SK-Sikkim.

The NFHS data shows a wide variation across states in all the indicator. Some of the states are performing better (like Manipur and Mizoram) and some are poorer than the national average (like Assam and Nagaland), though it is not always the same with all indicators.

CHAPTER-3

PERCEPTIONS, BELIEFS AND PRACTICES RELATED TO BREASTFEEDING, NUTRITION AND CHILDHOOD ILLNESSES

Largely based on the literature review, this chapter brings out the perceptions, beliefs and practices related to breastfeeding, nutrition and childhood illnesses, followed by a brief exploration in the village.

Determining Factors for Perceptions, Beliefs and Practices

Infants and young children interact with their environment during the course of their development and learn culturally determined behaviours which include family beliefs system, attitudes, tradition, food likes and dislikes. Food behaviour, nutritional status, growth and development are influenced by each other. These factors are synergistically modulated by the socio-economic factors that include the literacy status, income and occupation of parents/caregivers, demographic features of the home, access to quality foods and healthcare and the resultant child care practices (ICMR, 2003).

Much of child care behaviours and practices are endogenous to cultures, and even to households and individuals. Cultures and ethnic groups often have prescribed behaviours that are based on local knowledge systems and are practiced and taught to successive generations. And sometimes, individuals learn these practices from their observations or are specifically instructed in them by their peers and elders (Range, 1997).

In India, about 3/4th of the infant population lives in villages (Sharma and Nagar, 2006). It is imperative to preserve this wealth and to promote their well being through exercising utmost care in order to make them healthy and to protect them from deadly diseases. It is well established that the welfare of a child and his future are totally dependent upon the care and attention bestowed upon him before and after birth. Care of children had always traditionally been the forte of mothers irrespective of education, income and social class differences (Aurora, 2001). Attitude of mothers towards breastfeeding, weaning methods, her company and response to the child are important factors that ultimately lead to better health besides their socio-economic factors.

Despite remarkable world-wide progress in the field of diagnostics and curative and preventive health, still there are people living in isolation in natural and unpolluted surroundings far away from civilization with their traditional values, customs, beliefs and myth intact (ICMR, 2003). Their health is still influenced by their beliefs and practices. They are commonly known as “tribals” and are considered to be the autochthonous people of the land. About half of the world’s autochthonous people, comprising 635 tribal communities including 75 primitive tribal communities live in India. They are found in all states except Punjab, Haryana and Jammu & Kashmir (GOI, 1998). There is a consensus agreement that the health status of the tribal population is very poor and worst among the primitive tribes because of their isolation, remoteness and being largely unaffected by the developmental processes going on in the country.

Importance of Breastfeeding

Some of the most impressive changes brought about by social development have been in the field of early childhood. Child development is linked to social and cultural aspects of mother-child relationships, families, communities and national policies. Poor nutrition may be the result of food availability but also of cultural beliefs about breastfeeding, weaning practices, the different social value for girls and boys, as well as of the dynamics of family relationships. These can all be affected by public policies, such as national plans of action, on child rearing and nutrition. A woman’s attitude towards breastfeeding and how she chooses to feed her baby are closely linked to the woman’s culture as well (Weibert, 2002).

More than one million infants worldwide die every year because they are not breastfed or are given other foods too early. Millions more live in poor health, contract preventable diseases, and battle malnutrition. Infants who are not breastfed or who are fed with other foods too early may have greater health risk for diarrhoea, respiratory infection and other health problems. Breast milk not only meets the child’s nutritional requirements but because of its inherent immunological properties, it also offers considerable protection against diseases (Kumar, S., 2003). Adequate food and good feeding practices are essential for the normal growth of a young child. Malnutrition is

clearly linked to inappropriate feeding practices rather than just to food availability or household food security.

Therefore ICDS/anganwadi centres are supposed to provide supplementary feeding and inculcate good feeding practices among mothers. As suggested by WHO, 1978, supplementary feeding should be introduced at around 6 months of age in addition to continued breastfeeding up to two years of age. This attempts to bridge the calorific gap between the national recommended and average intake of children in low-income and disadvantaged communities. Supplementary food is also essential for pregnant and nursing mothers.

In a country like India, children under the age of three, who are living under poor economic condition and where poverty has ill stricken, not only live a precarious lives but also have limited access to institutional care and government system. These populations are effected the most as their health status is indicated by their health conditions in terms of nutrition, immunization and breastfeeding (Sinha, 2005).

Infant feeding practices and child nutrition has a significant effect on child survival and its overall health. Breastfeeding improves the nutritional status of young children and reduce the morbidity and mortality. Breast milk not only provides the infant with important nutrients but it is the ideal nourishment for infant's survival, growth and development and also protects the child against infections and illnesses like pneumonia and diarrhoea, which are the two major causes of child mortality in the developing countries (WHO, 1991). Moreover, breast feeding allows or facilitates the bonding between the mother and her new born baby (UNICEF, 2001).

In India, some of the problems are inappropriate practices such as the delayed introduction of complementary foods, low energy and nutrient density of foods offered and feeding in small amounts at meals and restrictions of food due to cultural beliefs are common. Resources and practices should go hand in hand for good health of the infant (Bhandari, *et.al.*, 2004).

Again the timing and type of supplementary foods introduced in the infant's diet have significant effects on the nutritional status of the child. The Innocenti Declaration on the protection, Promotion and Support of Breastfeeding (1990) and the WHO Working Group on Infant Feeding (WHO, 1991) have made several recommendations on

the feeding of infants and young children. These international recommendations states that infants should be given only breast milk up to 4-6 months of age. Aside from breast milk no other foods or liquids are needed during these periods. At the age 4-6 months, adequate and complementary foods should be added to the infant's diet in order to provide sufficient nutrients for optimal growth. It is recommended that breastfeeding should be continuing, along with complementary foods, up through after six months or beyond. It is further recommended that a feeding bottle with a nipple should not be used at any age, for reasons having to do mainly with sanitation and the prevention of infections. In addition the Baby Friendly Hospitals Initiative, launched by the World Health Organisation (WHO), recommends the early initiation of breastfeeding, immediately after childbirth.

Breastfeeding has been almost universal in India with 95 percent being breastfed (NFHS-2, 1998-99). This is not surprising since breast milk has been the traditional source of nutrition for young infants and children in India. The NFHS 1998-99 shows that how soon the children are breastfed in India. There are some variations among states on breastfeeding. For a large majority of children in India, the timing of initiation on breastfeeding is later than recommended. Only 10 percent began breastfeeding within one hour of birth and 26 percent began breastfeeding within 24 hours from birth. The practice of squeezing out and throwing the first milk, colostrums, is also very common in India.

Children often progress well while they are being breast-fed and then deteriorate after they are weaned, due to inadequate food supplies and inappropriate weaning practices. It is not unusual for the percentage of children who are malnourished in the first year of life to double or tripple between one and two years of age. This is linked to the fact that children tend to be weaned around the age of two years. Many cultures acknowledge that this is a risky time for children. Although there are exceptions, it has been found that many traditional beliefs and practices enhance the survival chances of both the child and mother. Early childhood malnutrition may thus be aggravated in urban areas where such beliefs are often affected by modern ways or the food items required are replaced by industrially produced food. National child rearing policies and health education programs need to harness such beliefs if they are to be successful.

While there is no single formula for improving nutrition, the irreplaceable benefits of exclusive breastfeeding in the first four months of life are encouraged by the Baby-Friendly Hospital Initiative (BFI) which has been initiated by WHO and UNICEF (WHO & UNICEF, 1989). In the course of economic development many community attitudes change or are challenged. Ideas about food are no exception and tend to become a key element in any successful health transition as commercial advertising results in certain foods becoming associated with modernity and progress, even though they may not be as nutritious as the traditional diet. The diseases from which children usually suffer are mostly due to deficiencies that can bring about early disability, and mental deficiencies (Vella, V, 1992). Stunting, micronutrient deficiencies as well as immune deficiency are common. Stunting often begins in the womb, as the result of maternal malnutrition. Low-birth-weight babies contribute significantly to increase the IMR and those who survive are likely to be stunted for the rest of their lives. Long-term dietary intake reductions and repeated illness cause stunting and are at their most damaging in the first 24 months of life (Waterlow, 1974).

Colostrum

Colostrum is the first milk that the mother has long before the baby is born. It is perfect as the baby's first food. It is an opaque, yellow, sticky fluid secreted during the first few days postpartum. It provides nutrition, protection against infectious disease, and some cathartic effects. It contains more protein and minerals, less sugar and much less fat than mature breast milk (Lawrence and Lawrence, 1999). It also contains live cells like T and B lymphocytes, neutrophils, macrophages, and epithelial cells, plus hormones, carrier proteins, enzymes, and of course, immunologically specific and non-specific factors. It's very important to remember that constituents in human colostrum and milk are multifunctional and interactive (Lawrence and Lawrence, 1999).

The mysteries and taboos about colostrum go back to the dawn of civilization. Most ancient primitive peoples let several days go by before putting the baby to the breast, with exact times and rituals varying from tribe to tribe. Every society had a long list of foods, fluids and herbs which were deemed especially suitable for newborns and their mothers. Every society had its prescribed routines and rituals to purge or stimulate

or protect. In India, the colostrum is discarded because of the general belief that it is “heavy” or “not good for the child”. As the colour of the initial breast milk is not pure white, it supports the perception that during the first 1-2 days the mother’s milk is not pure and hence could harm the child (Khan, 1992).

Given what we know now about the effects of such concoctions on the bacteria of the gut and the long term impact this can have, it is reasonable to assume that much of the mortality among breastfed infants was related to such food rituals interfering with the protective mechanisms of breastfeeding (Minchin, 1998).

Contrary to popular belief, we found that colostrum was not given to majority of the children and exclusive breast-feeding up to 4 months was not done in about one fourth of the children. More than one third of the children were put to breast by second day of birth or thereafter. Giving prelacteal feed was lower in tribal children than in other urban studies (Rao, V.G, *et.al.*, 2004).

Breastfeeding Practices across India

The practice of breast feeding is almost universal in India. It is universally accepted that, for the first few months of life, breast milk is the best nutrition for the human infants. The health and nutritional status of millions of infants influence their subsequent growth and development throughout childhood is determined by the patterns of feeding during the infancy. Human milk is the most appropriate of all available milks for the human infants because it is uniquely adapted to his or her needs. Breast milk is the natural food for full term infants during the first months of life. And it is continued up to the age of 4 to 6 months. After six months supplementation is necessary for a child. Doctor always advises the mother to provide for breast milk shortly after birth of the child. Most infants start breast feeding shortly after birth and others within 4 to 6 hours (Dash and Choudhury, 2005).

Influence of cultural beliefs and practices on breastfeeding patterns has been addressed in several studies. Breastfeeding and timing of weaning are also socially and bio-culturally patterned and vary across societies. They are determined by the mothers’ characteristics, her choices, her knowledge, her perceptions about child’s health and cultural beliefs related to breastfeeding (Bharati, 1995, 2000).

Among the mothers of rural community in West Bengal, a belief that the breast milk of a pregnant woman could 'rot' and cause disease in a child was prevalent. In spite of this belief, among the mothers of Orissa, concurrent breastfeeding by pregnant women were common, but a pregnant mother whose breastfed child got ill, for instance with diarrhoea, would immediately stop breastfeeding (Bavdekar, 1994). A longer duration of exclusive breastfeeding was significantly associated with positive maternal attitude towards breastfeeding. A cross-sectional analysis of mothers' attitude and infant feeding behaviour in the United States indicates that the attitude of the mother are better predictors of feeding method than the socio-economic factors (Gorter, *et.al.*, 1995).

The time of introduction of first breastfeeding varies from mother to mother. The time ranges may also be different from 3 hours from birth, till the sixth day. Delay of giving breast milk may be due to personal health or they do not get advice from elders so they delayed. And some believed that early feeding is harmful for the baby. Only after fully relaxed from pain, mother gives feeding to the baby (Kaur and Kumar, 1994).

A study conducted in Northern India shows that exclusive breastfeeding was considered harmful for the infant. It was believed that the baby has an obligatory requirement for supplementary water to quench its thirst and promote its normal development. Colostrum is discarded because it is dirty, like 'pus' and is considered to be harmful for the infant. Complementary foods are introduced as early as two months because they believed that the baby must have sufficient amount of food during lactation (Awasthi, *et.al.*, 2006).

Colostrums (thick, yellow milk) secreted during first few days after birth of a child is very rich with vitamin 'A' and an easily digestible protein having high concentration of antibodies. It protects the newborn against various bacterial and viral diseases, till the nature's provision of self manufacturing antibodies inside the baby's body mature to become functioning. However, among the Santhals and Non-Santhals of Orissa, there seems to be a deep rooted prejudice against giving colostrums and many mothers do not put the baby to the breast for one or two days or even longer (Dash and Choudhury, 2005).

Among the Konda Reddis, breastfeeding is done on demand. The first feed given to the baby is the mother's milk only because they believed that the first milk; colostrum

should be given otherwise the child may die. And one of their practices was that if the mother does not lactate, other lactating women in the kin group feed the infant. They believed that women should take papaya during pregnancy as it induces lactation. And this helps them to acquire vitamins and minerals. Women do not take any nipple care. Supplementary feeding starts after one or one and half years which is considered to be quite late. They give *jawa* gruel made up of *jowar* twice a day as supplementary food. While weaning they do not give any special food to babies, whereas the infants should be given supplementary nutrition at least four times a day, continuing with breast milk and other milk. Thus, this leads to undernutrition and malnutrition among children. So the general health of children showed that they are weak, thin and fragile. No ritual is performed before introducing supplementary feed. Weaning is quite late and breastfeeding last at least for two years. Early weaning happens only if women become pregnant again (Bharati, 2000)

Breast feeding is given to the infant/child as per the convenience of the mother. In most parts and regions of the Indian states, the mothers' day to day domestic work determines the timings of breastfeeding. Sometimes mother feeds the child on specific scheduled time and sometimes on demand of the child. Mothers feed the child when he/she cries out indicating hunger (Kaur, *et.al.*, 1994). But above all these, the importance and ideal ways of breastfeeding is beyond these practices.

The number of feeding required per day is important to the child to meet his/her hunger. The number of feeding required per day decreases throughout the first year. By the first year of age most infants are satisfied with three meals /day. The intervals between feeding differ considerably among infants but in general, it ranges from 3-5 hours during the first year of the life (WHO, 2003).

Due to lack of sufficient knowledge about the feeding and also due to certain social customs and beliefs, breastfeeding the baby are delayed (Kaur *et.al.*, 1994). Sympathetic health worker can help to overcome the prejudice by explaining the mothers and their families about the protective value of colostrum and encouraging them to feed the baby. The mothers should not consider an alternative to breast feeding (WHO, 2003). Exclusive breast feeding can save many lives by preventing malnutrition and reducing risks of infections during early infancy. No child should be denied the benefit of

exclusive breast feeding due to lack of information to the mother. Taking care of this practice is important and should not be eroded in any way by socio-cultural development.

A study conducted in two slum areas of Bombay found that nutritional status of infants depends on feeding practices prevalent in the community. Exclusive breastfeeding for the first four to six months of life and timely introduction of weaning foods are important for laying down proper foundations of growth in later childhood. A study of prevalent infant feeding practices is essential before formulation of any need based intervention programme and to outline trends in feeding patterns (Bavdekar, *et.al.*, 1994).

Exclusive breastfeeding were found to be less among them and timely complementary feeding were not practised. Most of the mothers used commercial milk formula and used commercial weaning food (Bavdekar, *et.al.*, 1994). Fewer infants below the age of 4 months were receiving exclusive breast milk. Syrups and vitamin drops were the commonest liquids ingested by these infants. There were other infants among this age-group receiving water, in addition to breast milk. Other breastfed infants also received cow's milk, buffalo's milk or powdered milk as additional sources of food. There are also some infants in this age-group who did not receive any breast milk and was fed on powdered milk and gruel (Bavdekar, *et.al.*, 1994).

In India, the common weaning foods included buffalo's or cow's milk, rice gruel, banana and biscuits. More than half of the infants, between 180-299 days, received commercial milk or infant weaning formula as one of the weaning foods. Commercial food and commercial weaning practices were used in the age-group of 12-18 months. The infants below the age of 2 years were receiving commercial milk formula and commercial weaning food. Though spoon and katori, cup and glass were frequently used by mothers, bottle was also used by some of the mothers. And the prevalence of bottle feeding was highest among the age-group of 5 months to 1 year and then declined gradually (Kaur, *et.al.*, 1994).

In India it is generally found that infants are given water at an early age and at the same time complementary feeding were not timely introduced. This is shown by many of the study. Giving water to infants at an early age is common and timely introduction of weaning foods are not very encouraging. And rarely complementary foods for children 6-

10 months are introduced and infants who received the complementary foods also do not receive it at the right time.

The late introduction of weaning food by Indian mothers is a well-documented fact and is considered to be the major cause of infant malnutrition. Breastfeeding continued beyond 1-2 years has its benefits, when supplemented with other food. Fears have been expressed that duration of breastfeeding is getting shorter in certain segments of population and rates as low as 19% have been reported by Kushwaha et.al (1987). Continued breastfeeding rates at 1 year and 2 years were also noted but this phenomenon has not yet become universal.

Practices of Breastfeeding amongst Mothers in Saikot Village

Breastfeeding has been the practice amongst mothers in this village. All the mothers who were interviewed were breastfeeding their child right from their birth. But exclusive breastfeeding for 4 months are not common among them. When the child is 3 months old they started giving other foods such commercial milk, cow's milk and water. They do not know what types of foods comprises the ideal foods for complementary and supplementary foods for the child. Semi-solid foods were started given when the child is about 4 months of age. And most of the mothers could not clearly point out the exact time they started giving solid foods to the child.

What were given and considered as good or nutritious food for children are banana, milk, eggs and rice powder. The major foods given as solid or semi-solid foods were crushed rice cooked with dal or potatoes. Some of the poor mothers who could not afford to buy dal or potatoes cooked with plain water and this were given to the child. Breastfeeding usually continues till the child is 8 months to two years and stops when the woman becomes pregnant again.

Faulty Feeding Practices

In India, pregnant women often eat less (when they need to eat more) for the fear of the baby becoming too big and causing problems during labour. This fear is understandable, since most Indian women have a small stature and untrained birth attendants often conduct deliveries. Pregnant women are denied good food due to false

beliefs. Papaya, a rich source of b-carotene (vitamin A) is considered to be an abortifacient and is banned. Banana eating is believed to produce single-child infertility, since the banana tree fruits only once. Though prolonged breast-feeding is routinely done (and needs to be encouraged), it is not initiated within one hour after birth, as is recommended by WHO. Often mother's milk is given only after three days, thus discarding colostrums, which is rich in nutrients like vitamin A and in protective antibodies (Bamji, 2003). The World Health Organisation (WHO) recommends exclusive breast-feeding for six months and introduction of complementary food by the sixth month. Neither of these is practised. Pre-lacteal foods like honey, other sources of milk, and sugar water are given to the newborn baby, thus causing infection. Complementary food is introduced only after one year, leading to growth retardation.

Comparison within Indian states

A study conducted by the ICMR reported that comparison among three Indian states – Andhra Pradesh, Maharashtra and Kerala – shows women and children in Kerala have better nutrition status than the other two states, despite comparable or slightly lower intake of calories and other nutrients. This can be attributed to the higher degree of social development in (ICMR, 2003).

Impact on nutrition may follow. Comparison between region, within region and within country suggests that malnutrition has complex aetiology and only balanced strategy of development ensuring food, nutrition, health and environmental security which can help eliminate the burden of malnutrition in the community, particularly in women and children (Bamji, 2003).

Childhood Illnesses: Perceptions and beliefs of Care Givers

Neo-Natal Illnesses:

Globally 10 million children die annually before their fifth birthday, most of them in the neonatal period. More than 98% of these deaths occur in developing countries. Almost half of the deaths in under-five-year-olds occur in infancy. Of the infant deaths, about two-thirds occur in the neonatal period. It has also been noted that one-third of all

neonatal deaths occur on the first day of life, almost half within 3 days and nearly three-quarters within the first week of life. In developing countries, about 34 of every 1000 live births result in neonatal death (Black, 2003).

A study carried out among rural community in Uttar Pradesh in the year 2005 by Agarwal, et.al finds that most of the respondents considered maternal malnourishment and “small womb” as important risk conditions responsible for producing a “sick” neonate (Agarwal, *et.al.*, 2006). Some of them believed that sick neonates are produced due to poor pregnancy outcomes. During pregnancy general sickness caused by “too little intake, particularly of leafy green vegetables”, presence of any illness (fever, vomiting, frequent stools, oedema of legs, “inactiveness” and “maternal overeating and/or eating many times a day”) were the reason considered as leading women to poor pregnancy. In contrast, few women considered infrequent eating or under eating as a risk condition for foetal growth (Agarwal *et.al.*, 2006). And it was believed that this in turn causes neonatal illness among the infants.

Beliefs and practices during the antenatal period

In UP, India, the community from Sarojini Block, after researching it was found that mothers, caregivers and some health workers believed that certain things were to be avoided during pregnancy. Most believed that pregnant women should avoid tea, rice and certain lentils (urad dal) as these were “hot” or “cold” food, and rice was thought to cause a lot of white layering on a neonate’s body at birth. They felt that the mother should not eat fried food or sour food (e.g. pickles). Respondents thought that pregnant women should not eat large quantities of food for fear that the baby would grow too large and the woman would subsequently experience difficulties during delivery or the mother’s stomach would be so full with food that there would not be enough space for the fetus to grow. Pregnant women should also not take “excessive and unnecessary” rest and should avoid lifting weights, fast walking and climbing stairs. Few recommended abstinence from sex during pregnancy (WHO, 2006)

Mothers' Beliefs and Practices Regarding Prevention and Management of Diarrheal Diseases

Diarrheal disease is responsible for about 19 percent of child deaths among countries in the developing world with the highest child mortality (Bryce et.al, 2005). Poor nutrition and inadequate sanitation and clean water make diarrheal disease a major source of mortality across all regions. These underlying causes are linked directly to poverty. Children are at greatest risk between the ages of about 6 to 11 months (Kaur, et.al., 1994). As they are weaned, infants are exposed to unsafe food, water, and unsanitary surroundings. They begin to lose the protective effects of their mothers' immunity and the immunological benefits of breast milk. Inadequate feeding practices may undermine their nutritional status. This is the period when growth curves often dip sharply. Proper nutrition, especially exclusive breastfeeding in the first six months and then continued breastfeeding through at least age two, is one of the most important interventions for the control of diarrheal disease (Kaur, et.al., 1994)

A study from villages in Haryana by Kaur, et.al, finds that most of the mothers reported that there are multiple causes for occurrence of diarrhoea. Some of the reasons described were due to consumption of uncovered food or stale food and feeding babies with dirty bottles. And most of the mothers were in favour of continuing breast feeding during diarrhoea. Fluids in more than unusual amounts were favoured and most of the mothers first gave home remedies during diarrhoea. But when the illness is getting serious and home remedies seem do not benefit, they seek help from the local medical practitioner and only then they go to Government health functionaries. Diarrhoeal management Programmes were launched in the villages and during the time of conducting the programme, most mothers believed that diarrhoea was due to infection. But later they begin to believe that it was due to consumption of unhygienic food. Still awareness about specific measures which they can adopt for protection from diarrhoea is lacking in the village.

Beliefs regarding dietary management of diarrhoea have also been changed in this area. Less percent of mothers were in favour of withholding breastfeeding during the illness, but later there were less percent that are in favoured of restriction. Food

restriction was largely favoured by most of the mothers but the attitude has changed later but still there was no change in fluid restriction (Kaur, 1994).

Familiarity with Oral Rehydration Treatment has also increased. At first the herbal remedies were given as a first line treatment, later home made liquid supplementations with ORS were practised by the rural community. Almost half of the mother in the Haryana rural villages does not know how to use Oral Rehydration Supplement (ORS).

Infants under six months who are only partially breastfed are 8.6 times more likely to die from diarrhoea than infants exclusively breastfed (USAID, 2004). Continued and more frequent feeding during and after bouts of diarrhoea is crucial for recovery. Attention to feeding can also stop the deadly synergy between undernutrition and repeated illnesses. Many experts say it is unethical to address diarrheal disease without discussing nutrition.

Several community-based studies have demonstrated that most of the diarrhoea related deaths can be prevented by appropriate and timely use of Oral Rehydration Therapy (ORT). However, even after a decade of active promotion, only one third of the diarrheal episodes are treated by ORT. Though availability is an important factor but beliefs and attitudes also influence the use of ORT. The objective of this study was to find out the change in mothers' beliefs and practices after implementation of the diarrheal diseases control programme, and to use the information for improving the promotional strategy (Kumar *et al.*, 1994).

Hygienic Practice

Among the Gond community in Madhya Pradesh, socio-cultural and hygienic practices revealed that open air defecation is the rule in these villages. Children often defecate in the open space around the houses. Most of them either do not wash their hands or use plain water for hand washing before eating and after defecation (Rao, V.G., *et al.*, 2004).

Poor environmental sanitation and unhygienic personal habits appear to predispose them to the risk of infections. In addition to the infections, adverse cultural practices relating to child rearing, breastfeeding and weaning were some other

contributory factors for malnutrition and must be playing an important role in this community (Rao, V.G., *et.al.*, 2004).

Poverty and Nutrition

Hundreds of million in the third world are unable to get the minimum calorie requirements because they do not have enough resource to buy food as they are poor (Banerji, 1988). But many of the poor have successfully adapted to lower food intake and are not necessarily unhealthy (Sukhatme, 1972).

Several factors, such as poverty, women's status, and cultural beliefs and practices, may act as barriers to successful programs. Poverty acts to limit access to care and the choice and amount of foods available to pregnant women. Women's status may influence pregnancy weight gain through the family's response to the woman's pregnancy. It is in this context that the potential of using micronutrient supplements rather than food became attractive to many international agencies in the 1990s (UNICEF & WHO, 1990). Micronutrient supplements are cheaper and more feasible and can improve dietary quality by providing several key nutrients, such as iron, vitamin A, and zinc folate at the same time. Women who received iron-folate supplements and Vitamin A are more likely to have normal birth weight (Ramakrishnan, 2003). Therefore it is not only that food availability but other factors such as feasibility of resources and health services are also required for mothers and infants to be well nourished.

Breastfeeding and Child Feeding Practices in Saikot Village

Breastfeeding was recognised to be of vital importance for children's health by the mothers. All mothers were breastfeeding their child right after delivery and colostrums was also given to their infants. Majority of the mothers exclusively breastfed their child till the age of four months. After the completion of four months, most of the mother opted for inappropriate early supplemental feedings. Despite the efforts made by WHO on exclusive breastfeeding till the age of six months, all mothers do not employ exclusive breastfeeding till the age of six months. Most mothers feel that the child may not get an adequate satiety from exclusive breastfeeding. And majority of the mothers feels their breast milk alone is inadequate for the child's growth. Most of the mothers usually stays at home till their baby complete the age of four months and go for an

outside work, such as going to the field, and left the child with the other elder siblings or their in-laws. As the children do need food when their mothers are working away from home for longer hours therefore, it is thought that children are needed to be given other supplemental food. For this reason, other foods like cerelacs and crushed rice cooked with plain water, dal or potatoes were given to the child at an early age. So, breast milk along with other supplementary foods is introduced to their children at an early age.

Most of the mothers are not aware of the danger signs of malnutrition. Since most of them are poor, they could not provide enough and nutritious foods to their children. Foods consumed by their children were not looked after properly and most of the children were found to consume food in an unhygienic condition. Feeding bottles were found to be dirty and plates used were also unhygienic. Children's nutritional status was never check with the anganwadi workers and most of the mothers go to health workers only in times of sickness and minor illness. A mother believes that if the child could eat well, then there is no point in going for check ups unless they are ill.

It was also found that mothers registered their child's birth. All children were immunised and were given polio drops. Since all mother gets and advice on immunization from the health workers, they immunised their children at a given time. Most of the mothers do believed that immunization helps child's growth and if complete immunizations is done, then children were believed to be having good appetizer. They also believed that immunization protects the child from certain diseases.

CHAPTER - 4

CHILD WELFARE PROGRAMMES AND HEALTH SEEKING BEHAVIOUR

This chapter deals with child welfare programs, Immunization and Integrated Child Development Schemes (ICDS) in greater details and delineate the five year plans related to the child welfare programs in India. The chapter also looks into whether these child welfare programs are implemented in the Saikot village.

India has one of the largest networks of health services. Through Primary Health Centres (PHCs) and Integrated Child Development Services (ICDS), essentially public health services can virtually reach every rural doorstep in the country. Yet for various reasons, the health services have been able to make a rather limited impact on the health situation. One such reason is that, in trying to be comprehensive in reach, the health interventions not have been sufficiently sharp to make major dents. There are other major problems, like limitations of available resources, poor working conditions and poor motivation levels (RCH, 2002-04).

The government health facilities at all the levels provide various RCH services. The Auxiliary Nurse Midwife (ANM), family planning worker or male health worker play a key role in delivering the services to the community. Health workers are expected to make regular visits to each household in their assigned area. And the health workers are supposed to monitor various aspects of the health of women and children, provide information related to health and family planning, counsel and motivate them to adopt appropriate health and family planning practices and deliver other selected services (RCH, 2002-04). These contacts are also important for enhancing the creditability of services and establish necessary rapport with the clients. In order to assess the extent of utilization of government health facilities by all eligible women and to find out whether ANM/health workers reach the households for providing RCH services.

Child welfare programmes constitute the development policies which were having certain universal goals. And these goals are giving economically disadvantaged children the same chance to develop as their more fortunate peers, and addressing children's needs by providing, where finances permits, an integrated package of services in health care, nutrition, and psychosocial stimulation (Young, 1996). The major program services for

Early Child Development for prenatal to 3 years includes RCH and ICDS programmes. Major interventions such as maternal health, safe delivery, care of newborn, nutritional security including breastfeeding, complementary and responsive feeding, care giver-child interaction, management of childhood illnesses, child-care practices, pre-school care, environment hygiene, safe water and sanitation and cultural attitudes and context (World Bank, 2004). In order to carry out these programmes, various components are necessary which are antenatal care, safe delivery, perinatal care, immunization, Vitamin A supplement, supplementary nutrition, and Information, Education and Communication (IEC) strategy on health services, nutrition and health education, pre-school education, health and referral. And the implementing agencies include State Governments, Department of Women and Child Development and Ministry of Health and Family Welfare (World Bank, 2004).

Many a time's literatures and reports have brought out that India's children health scenario has been demanding major inputs in the health care services, especially when to reach the poorest and the most socially excluded children in order to sustain reaching out to them. Tackling problems of such magnitude which affects the health of the children requires a public health approach. Thus, achieving population coverage of interventions at such scale can only work with community-based approaches (Raman and Srikantiah *et.al.*, 2005). This is not an easy task because delivering community-based approach requires a challenging and multi-pronged approach such as engaging the community, using health workers and volunteers from the community, capacity building and training at multiple levels, collaborative and inter-sectoral planning and work.

Over a period of time, the Government of India has initiated several measures to ensure the survival, protection and development of children. This is reflected in the Five-Year plans, which has launched several schemes and programs to provide health, nutrition and education services. Indeed plans for child development have been within the main frame of India's planning process from the very first Five-Year Plan (1951-56).

It has been already within the main frame of India's planning process that plans for child developments were included from the very first Five-Year Plan (1951-56). In the initial years of planning, the main responsibility for developing child care services was with voluntary organizations, whose efforts were assisted by the Central Social

Welfare Board. But based on numerous studies which found acute malnutrition among school going children, the First-Five Year Plan proposed a feeding program in addition to setting up public health departments that would take care of the needs of the infants, children and mothers (World Bank, 2004). With these initial interventions and better health care programmes, India gained in human development achievements over the years, but against these positive changes, the persisting problems stood out more sharply, for example, high morbidity due to communicable diseases and other nutrition-related diseases. Therefore, health care plans should be integrated with other development sectors and services in order to have a holistic development of a child.

Nutrition Monitoring from the First Five-Year Plan till the Eleventh Five-Year Plan

The Five Years Plans are more or less linked with child development services with different sectors which dealt with in each Plan, such as health, nutrition, family welfare and education.

Nutrition had been mentioned frequently in the **First Five- Year Plan (1951-56)** as an important determinant of Health. Approximately 15.76% of India's population consists of children below 6 years in India (Census, 2001). With a young population of this size, plans for child development have been within the mainframe of India's planning process from the First Plan itself. In the initial years, the main responsibility of developing childcare services had primarily rested with voluntary organizations. The Central Social Welfare Board played the lead role in planning and assisting voluntary efforts.

Over the years, the planning of strategies for children in the country has evolved from welfare to development to rights approach. Considering that the opportunities for early childhood development determine both the present and the future human resource development of the nation, child development received attention from the very First Five Year Plan (Ministry of Women and Child Development, GOI, 2006)

The **Second Five Year Plan (1956-61)** laid great emphasis on food production with a view to achieve food security in India. Under the health programmes, nutrition formed another health programmes with priority for improving nutrition of vulnerable groups such as expectant and nursing mothers, infants, pre-school and school going

children as the specific objects. The Indian Council of Medical Research was entrusted with research and data collection on the nutritional status of these groups (Planning Commission, GOI, 2001).

The **Third Five Year Plan (1961-66)** focussed on improving the nutrition of the people through dietary diversification. Creating nutritional awareness and changing food habits of the people were important strategies adopted during the Third Plan.

The **Fourth Five Year Plan (1969-74)** recognised the problem of malnutrition among the vulnerable groups and directed specific nutrition programmes for addressing the problem of protein energy malnutrition in children, nutritional anaemia among pregnant women and blindness due to vitamin A deficiency in children.

The **Fifth Five Year Plan (1974-79)** recognised the need for an integrated approach for combating malnutrition in children and women at the national level (Planning Commission, 2001). Gradually shifting emphasis from child welfare to child development became more clearly articulated during this Plan period. Planning have been influenced towards the issue of integration and convergence of sectoral inputs for the well being of infants, children up to the age of 6 years, pregnant and lactating women (World Bank: 2004). During this period, the **National policy for Children (1974)**, which helped highlight various critical areas of child development, was also declared. But most important of all was the milestone in the government's approach to child development, was the conceptual move to integrate early services for children. Such integration was to cover a range of aspects such as supplementary nutrition, immunization, healthcare including referral services, the nutrition education for mothers, pre-schooling, family planning, and the provision of safe drinking water.

In keeping the idea of integration, the **Integrated Child Development Services (ICDS)** was launched in 1975 to offer a package of services to children from the prenatal stages to the age of 6 and to pregnant women and nursing mothers. The ICDS was to adopt a lifecycle approach, and cover the main components of holistic and sustainable child development such as health, nutrition, and education. Its package of essential services was to be provided concurrently to make for a synergistic and holistic effect (World Bank, 2004).

From the **Sixth Five Year Plan (1980-85)** nutrition was included as a separate chapter. However, the subject of nutrition continued to be viewed as synonymous with the supplementary feeding component of the two national programmes, viz., the Special Nutrition Programme of the ICDS, for children from 0-6 years and pregnant and nursing mothers, and the Mid Day Meal Programme of the Department of Education (Planning Commission, 2001). A National Health Policy on **Family Welfare Programme** was adopted in 1983. Since the late eighties, the family welfare programme has evolved further to a focus on the health needs of women in reproductive age group and also to focus on the health needs of children below the age of five. The Sixth Five Year Plan reiterated the approach and strategy outlined in the Fifth Plan, and promoted consolidation and expansion of the programmes started earlier. It witnessed expansion of ICDS Projects and an accelerated implementation of Universalization of Elementary Education (UEE) (Ministry of Women and Child Development, GOI, 2006).

The **Seventh Five Year Plan (1985-90)** continued to lay emphasis on the strategies of the Sixth Five Year Plan. Emphasis was also placed upon ICDS, universal immunization, child care services, nutrition, preschool education, provision of safe drinking water supply, expansion of health care system, environmental sanitation and hygiene and family planning (Ministry of Women and Child Development, GOI, 2006)

The **Eighth Five Year Plan (1992-97)** continued the programmes of the Seventh Plan. Its main focus was human development with policies and programmes for child survival and development receiving high priority (World Bank, 2004). As a result, the **National Nutrition Policy (NNP)** was adopted in 1993.

The National Nutrition Policy was one of the most comprehensive documents on nutrition that defines short term and long term strategies for eliminating malnutrition, as well as implementation measures for achieving the nutrition goals. Direct interventions for children included expanding the nutrition intervention net, empowering mothers with nutrition and health education and also ensuring better coverage of pregnant women. The experienced gained from these initiatives, together with national and international consultations, culminated in an integrated and holistic programme, which is the

Reproductive Child Health Program.

The Eighth Five Year Plan also laid greater stress on children below the age of three (World Bank, 2004). To this effect, two National Plans of Action were drawn up in order to provide guidelines for the “survival, protection and development” of children. One plan of action was for children in general and the other was aimed exclusively at the girl child. Various indices were identified and the target for achieving these was set as the year 2000.

The **Ninth Five Year Plan (1997-02)** also continued most of the programmes of the Eighth Five Year plan with the following objectives: (i) Freedom from hunger, (ii) Reduction in under-nutrition, (iii) Prevention, early detection and effective management of micronutrient deficiencies and the associated health hazards (Planning Commission, GOI: 2001). The Constitutional Amendment Act, 2002 was also adopted during this period which made elementary education for children between the age of 6 and 14 a fundamental and justifiable right. But unfortunately this legislation does not cover children below the age of 6 years (World Bank, 2004).

The **Tenth Five Year Plan (2002-07)** reviews performance under the Ninth Five Year Plan and acknowledges that goals such as those related to MMR and IMR are not likely to be achieved (World Bank: 2004). The Tenth Five Year Plan also advocates convergent Rights based Approach to ensure the survival, development, protection and participation of children- with priority to the young child and the girl child. ICDS was recognized as the mainstay of the plan for child development, and convergence of three nationwide programmes- RCH, ICDS and Sarva Shiksha Abhiyan (SSA) was strongly recommended. The Plan reaffirmed its belief in integrated approach for meeting the survival, growth and developmental needs of young children, adolescents and women across the life cycle- through family and community based interventions. Integrated community based early childcare approaches, focusing on reaching children under three years of age were emphasized. The Plan acknowledged the need to make special efforts to reach the un-reached, disadvantaged community groups, for a more inclusive society- and specifically identified urban poor groups as having been left out of the ambit of ICDS. It also called for expanding the support services of crèche/day care services, thus

reducing the burden of working/ailing mothers and of the girl child who is expected to bear the burden of sibling care (Ministry of Women and Child Development, GOI, 2006)

The core objective for ICDS in the **Eleventh Five Year Plan (2007-12)** is “universalization with quality” (Planning Commission, GOI, 2006). This involves: (1) ensuring that every hamlet has a functional Anganwadi; (2) ensuring that all children under six and all eligible women have access to all ICDS services; and (3) enhancing the quality of ICDS services.

In the 11th plan there are recommendations and strategies for infant and young child feeding (IYCF). Most of the resources and strategies are looking at children above 2 years of age, but during this plan it had reorganised resources for children 6 months to 12 months and entirely directed to skill building training capacity development and counselling services for Infant and young child feeding, as much as it had already spent on immunization services.

Integrated Child Development Scheme (ICDS) and its Impact

The government of India started the ICDS programme in 1975, with support from UNICEF. The government perceives child development to be hindered by ‘poverty, poor environmental sanitation, disease, infection, inadequate access to primary health care and inappropriate child care and feeding practices’ (Government of India, 2000). The ICDS programme aims to alleviate some of these problems by providing a holistic package of services, including: supplementary nutrition and some basic health services for children aged below six years, and pregnant and lactating mothers; nutrition and health education for mothers; growth-monitoring, de-worming, and pre-school education for children.

To do this, ICDS (Anganwadi) centres (AWCs) are established in villages in selected administrative blocks. Most of these are in rural and tribal areas: only 6 per cent of the sanctioned ICDS blocks in 2003 were in urban slums (Parliament of India, 2003). The centre is staffed by an anganwadi worker (AWW) whose task is to provide some services directly to a rotating roster of children and pregnant women. Health and nutrition education is given via home visits to women who are pregnant or have infant children. The AWWs are expected to liaise with other frontline workers, in particular from the health department, to ensure that children and pregnant women receive key frontline

maternal and child health (MCH) services, including immunization, health check-ups, and referral services; they are also responsible for ensuring ancillary health services, such as distributing folic acid to pregnant women, and de-worming children.

A large number of monitoring studies indicate that the ICDS programme has many problems with implementation, as well as programme design. One major implementation problem is that AWWs are inadequately trained, supervised and supported, while their duties require considerable understanding of Child Nutrition and the ICDS in India nutrition, pre-school education, and MCH issues. A second problem is erratic provision of supplies, and leakage in food procurement. Thirdly, the food supplementation is poorly targeted: it is not confined to malnourished children, and mostly reaches children aged between four and six years old, who past the optimal window for influencing growth (Allen and Gillespie, 2001)

Problems of programme design include a lack of community participation (Greiner and Pyle, 2000). The programme is run in a very top-down fashion, with all the logistical and implementation inefficiencies and rigidities that such an approach entails, and workers are not accountable to the communities they serve. Also, the heavy focus of the ICDS on nutritional supplementation leads to the relative neglect of other more cost-effective approaches to improving nutrition outcomes, including efforts to improve environmental hygiene and domestic health management practices, so that children are less exposed to disease which takes a toll on child growth.

It should be noted that ICDS is not just a nutrition programme, but it is meant to be a package of 'integrated approach', and that include and go beyond a nutrition services, and further this nutrition services are not restricted to "supplementary nutrition" (Dreze, 2006). Supplementary nutrition is also an integral part of ICDS programme. Again ICDS is not just a welfare scheme, but also a means of protecting the rights of children under six – including their right to nutrition, health and joyful learning. It is also a programme of 'Universalization with quality and equity' which includes all the under-privileged, for example, the Dalit and the Adivasi communities in the process of Universalization as well as to eradicate social discrimination of any kind in the implementation of ICDS. They are also supposed to include other interventions such as nutrition counselling, micronutrient supplementation, and antenatal care for pregnant women. In practice,

however, the supplementary nutrition programme (SNP) has come to dominate ICDS. Further, the main focus of SNP has been on children in the age group of three to six years. Younger children have been comparatively neglected, if not excluded (Gupta, 2006).

The ICDS programme is one of the most important public programmes in India, reaching out mostly to the neglected population. The Integrated Child Development Services programme, which now covers almost all development blocks in India, is potentially well-poised to address some of the underlying causes of persistent undernutrition (Gupta, 2006). The programme adopts a multi-sectoral approach to child well-being, incorporating health, education and nutrition interventions, and is implemented through a network of 'anganwadi' centres (AWCs) at the community level. At these centres, anganwadi workers (AWWs) and their helpers provide eight key services to 0 to 6-year old children and mothers, including supplementary feeding, immunisation, health check-ups and referrals, health and nutrition education to adult women, micronutrient supplementation, health referrals and preschool education for 3 to 6-year olds. As the programme has developed, it has expanded its range of interventions to include components focused on adolescent girls' nutrition, health, awareness, and skills development, as well as income-generation schemes for women.

ICDS is the only major national programme that addresses the needs of children under six (Dreze, 2006). It seeks to provide young children with an integrated package of services relating to nutrition, health and pre-school education. Because the needs of a child cannot be addressed in isolation from those of his or her mother, the programme also extends to pregnant women, nursing mothers and adolescent girls. Basic ICDS services include supplementary nutrition, growth monitoring, nutrition counselling, health education, immunisation, healthcare, referral services and pre-school education. These services are provided through a vast network of ICDS centres, better known as "anganwadis". Each anganwadi is managed by an "anganwadi worker", assisted by an "anganwadi helper". An anganwadi is supposed to cover a population of about 1,000 persons – roughly 200 families (Sinha, 2006).

The coverage of ICDS has steadily expanded since its inception in 1975. Today, the programme is operational in almost every block and the country has more than seven lakh anganwadis. However, the effective coverage of ICDS remains quite limited: barely

one-fourth of all children below six are covered under the supplementary nutrition component. As mentioned earlier, the basic premise of the demand for universalization of ICDS is that all children have a right to nutrition, health, pre-school education and related opportunities. The anganwadi is an institutional medium to protect these rights, or at least to bring them within the realm of possibility. There are at least four other arguments in favour of universalization: a legal argument, a political argument, an economic argument and an equity argument. The legal argument is that, like mid-day meals in primary schools, the universalization of ICDS is mandatory under Supreme Court orders. On November 28, 2001, the court directed the government to ensure that every settlement has a functional anganwadi, and that ICDS is extended to all children under six, all pregnant or lactating women, and all adolescent girls. This order was reiterated and extended on April 29 and October 7, 2004, along with further directions on ICDS (UPA Government, GOI, 2004-06). The political argument is that the universalization of ICDS is one of the core commitments of the common minimum programme (CMP) of the UPA government. The CMP clearly states: "The UPA will also universalise the Integrated Child Development Services scheme to provide a functional anganwadi in every settlement and ensure full coverage for all children". Thus, aside from being important in its own right, the universalization of ICDS can be seen as an aspect of the need to hold the government accountable to its promises. It is in this spirit that the National Advisory Council formulated detailed recommendations on ICDS, in line with the commitments of the CMP [National Advisory Council 2004, 2005]. The economic argument is that providing health and nutrition services to children is a good "investment", so to speak. Many recent studies indicate that the "returns" to child nutrition programmes are quite high, or at least, can be quite high. The methods underlying these estimates of economic returns have serious limitations, and the results are at best indicative. Further, one should guard against allowing economic criteria to become the arbiter of public policy in this field. Nevertheless, these studies strengthen the case for a major expansion of child development services in India. Last but not least, there is an equity argument for universalization. Indeed, the universalization of ICDS would curb the intergenerational perpetuation of social inequality, by creating more equal opportunities for growth and development in early childhood. It would also foster social equity by creating a space

where children eat, play and learn together irrespective of class, caste and gender. This socialisation role of ICDS is very important in a country where social divisions are so resilient. Having said this, equity is often invoked as an argument for “targeted” (as opposed to universal) entitlements (Dreze, 2006)

Children under Three

Another major concern is that, as things stand, children below the age of three years are virtually excluded from ICDS. This gap is all the more deplorable as this is the most critical age group as far as health, nutrition and child development are concerned (recent scientific evidence brings out the irreversible damage that tends to occur in that period when young children are exposed to malnutrition and ill health). More effective coverage of children under three should be one of the core objectives of ICDS in the 11th Plan. In this connection, attention is also drawn to the need for much more active interventions (within and outside ICDS) relating to breastfeeding, Infant and Young Child Feeding (IYCF), maternity entitlements and crèche facilities (Planning Commission, 2006).

Reproductive and Child Health

The Child Survival and Safe Motherhood (CSSM) Programme was launched in India during 1992-93 by integrating all the Mother and Child Health (MCH) basic interventions with Universal Immunization Programme. It aimed at reducing the maternal, infant and child mortality and improves the health status of women and children and it was implemented as a part of 100% centrally sponsored Family and Health Welfare Scheme, in a phased manner covering all the districts by the year 1996-97. From 1997-98, the CSSM programme has been integrated into Reproductive and Child Health (RCH) Programme by adding the components of Reproductive Tract Infection (RTI) and Sexually Transmitted Diseases (STD). This concept is in keeping with the evolution of an integrated approach to the programme aimed at improving the health status of young women and children which has been going on in the country.

During the 9th Plan period, the RCH Programme accordingly integrates all the related programmes of the 8th Plan. The concept of RCH is to provide need based, client

centred, demand driven, high quality and integrated RCH services to the beneficiaries. The RCH programme is a composite programme incorporating the inputs of the Government of India as well as funding support from external donor agencies including World Bank and the European Commission. The RCH Programme is a very ambitious programme which aims to effectively bring all the Reproductive and Child Health Services within easy reach of the community.

The package of interventions in CSSM and RCH included essential newborn care (which also includes health education to mothers on breastfeeding and management of low birth weight babies), immunization, administration of Vitamin A, and appropriate management of diarrhoeal diseases and acute respiratory infections (ARIs) (GOI, 2005). Well-trained birth attendances, who can provide the essential package of new-born care, can contribute to dramatic reductions in the NMR and IMR. But home-based care of the sick newborns, education of mothers and training of birth attendants has been largely unsuccessful. Training of the Traditional Birth Assistance (TBAs) has been implemented sporadically.

Special focus on children under three:

A major effort should be made to extend ICDS services to all children under the age of three years, without affecting the entitlements of children in the 3-6 age groups. In particular, this would involve posting a second Anganwadi worker in each Anganwadi centre. Her primary responsibility would be to take care of children under three as well as pregnant or nursing mothers. This new focus would also involve giving much greater attention to “infant and young child feeding”, nutrition counselling, ante-natal care and related matters (Planning Commission, GOI, 2006).

Integrated Management of Neonatal and Childhood Illnesses

Close to 50 percent of newborn deaths in India occur during the first seven days of birth. Many young lives are lost due to parents failing to recognise warning signs and sick children not being taken to health facilities on time, and because many mothers do not have sufficient knowledge on the protective value of breastfeeding. The IMNCI addresses such issues. It focuses on strengthening home based care and provides special

care for under-nourished newborns. During home visits by health workers the mother is taught how to recognise diseases early and when to seek medical help. She is also educated on the benefits of exclusive breastfeeding. UNICEF has initiated the programme in one district in each of the following five states- Maharashtra, Rajasthan, Gujarat, Tamil Nadu and Madhya Pradesh- with plans to expand it into 20 other districts across the country (UNICEF, 2004).

Immunization

Immunization has been one of the most significant public health interventions and it is not only a cost-effective investment but it has a stimulatory effect of the development of the national health system of any country in general (NIHFW: 2006). Immunization has been a consistent thrust of programmes since the early 1980s (NCHM, GOI, 2005).

Immunization not only benefits the individual child, it also benefits society as a whole by preventing the spread of disease to those who are not immunized. It has considerable economic benefits. Obviously it is far more cost-effective to prevent disease than to treat it. There are also indirect impacts on education, because healthy children learn better, attend school more regularly and succeed in reaching educational goals (Asian Development Bank, 2001).

In some parts of India, immunization is being feared by the parents of the child. Sometimes it is being considered as bringing distortion in the child's health in his/her future years. Among the Konda Reddi, people generally fear immunization. They felt that when the child is not ill, why they should be given any injection. Sometimes immunizations were given forcefully by the ANM's when the parents were out in the day time and only when the other siblings were at home (Bharati, 2006).

The Universal Immunization Programme (UIP) was taken up in 1986 as National Technology Mission and became operational in all districts in the country during 1989-90. UIP became a part of the Child Survival and Safe Motherhood (CSSM) Programme in 1992 and Reproductive and Child Health (RCH) Programme in 1997. Under the Immunization Programme, infants are immunized against tuberculosis, diphtheria, pertussis, poliomyelitis, measles and tetanus (NFHS-2, 1998-99). Universal immunisation against 6 vaccine preventable diseases (VPD) by 2000 was one of the goals set long way back in the National Health Policy (1983). This goal however has not been achieved.

Available data from service reporting indicate that there had not been any improvement in the coverage during the nineties. This has been a source of concern. However reported cases of vaccine preventable diseases have declined over the same period.

Roughly 3 million children die each year of vaccine preventable diseases (VPDs) with a disproportionate number of these children residing in developing countries (Datar, *et.al.*, 2005). Though vaccines remain one of the most cost effective public health initiatives, yet the coverage against VPDs remain far from complete. Vaccine coverage in India is also far from complete despite a longstanding commitment to universal coverage.

In India, immunization has been a central goal of the health care system from the 1970s, first through the Expanded Programme on Immunization (EPI) in 1978, and later with the Universal Immunization Programme (UIP) since 1985. Constitutionally, health care is on the State's list of responsibilities and is financed by the state. The UIP is one of the few 100 per cent centrally sponsored family welfare programmes and provides support for vaccine storage, training of medical and paramedical staff, and all infrastructure needs specific to delivering immunization to infants at the village level (Datar, *et.al.*, 2007). The problem lies in delivering the immunization where the expanding coverage is demanding and where, in rural villages, the temperature-controlled environment is needed to store the vaccines before they are administered (Datar, *et.al.*, 2007). Thus the area of concern is how effectively the immunization delivery system administers vaccines to infants in the villages away from these cold chain facilities.

The Problem in India

Though immunization is one of the most cost-effective public health interventions available, yet a large proportion of vulnerable infants and children in India are not receiving this simple intervention. Across India in 1998-99, only 42% of children between 12-23 months had received all six of their primary immunization, with wide variations in the states (NFHS-2, 1998-99). And states with poorer immunization rates have generally higher child mortality rates. Of deaths among children less than five years of age, significant proportion dies of vaccine preventable diseases. These include pneumonia, measles and neonatal tetanus, tuberculosis, diphtheria, whooping cough, tetanus and poliomyelitis.

Under the Universal Immunization Programme (UIP) in India, it is expected that all children are protected against covered with full immunization by the year 2000. However, at present, the immunization coverage is lagging behind the goals of universal immunization programme.

Data from NFHS-I and II indicates that there has not been any decline in the immunization coverage over the nineties. However none of the states have achieved coverage levels over 80%; coverage level in states like Bihar UP and Rajasthan are very low. The drop out rates between the first, second and third doses of oral polio vaccine and DPT have been very high in most of the states. Lower coverage (over 20%) is reported for measles as compared to other immunisations. The percentage of vaccination coverage of children between 12-23 months, who received all the recommended vaccines from NFHS I, II and III are 36, 42 and 44 percent respectively (NFHS-III, 2005-06). There is not a significant change till today. The UN Millennium Development Goals (MGD) set forth for health and development by 189 countries in the year 2000 needs to rekindle, at least in India so as to gather specific momentum to achieved comparable health standards for all children by the 2015. Unless health system adequately meets the quantum and quality demands of key child health interventions such as immunization, the goals envisioned by the MGDs could not be achieve.

The most important indicators of child health mentioned in the MGDs are the under-5 mortality rate, infant mortality rate and proportion of one year child immunized against measles (P1MV). The National Rural Health Mission (NRHM) which was launched in 2005, with an objective to provide effective rural health care with a special focus on 18 states (including six North East states), is expected that it would improve access to immunization and improved mobilization services (NIHFW, 2006). A recent study by International Institute for Population Sciences, Mumbai showed that full immunization coverage in majority of 220 districts in India either showed decline (48.2%) or no improvement (43.2%) between 1998 and 2003 under the Universal Immunization Programme which is now a part of Reproductive and Child Health (RCH)-2 projects.

Children from one month- three years

During the period from one month to three years, the child is vulnerable to VDPs particularly if already poorly nourished, and living in surroundings with poor hygiene and sanitation. So in addition to sound nutrition, complete immunization and Vitamin A supplements during these periods are critical for the child's future development. Despite regular immunization programs, over 50 percent of the one-year-old children in the country were not fully immunised and they had not received vaccination against measles and DPT, or the three doses of the polio vaccine (NFHS-II, 1998-99)

As for the two-year old children receiving Vitamin A supplements, reports from NFHS-II shows that the situation was worse than that for immunization. Despite an increase in the number of children receiving Vitamin A, about two-thirds had still not received it. Again there are wide disparities among states with Assam, Bihar, Rajasthan, Tamil Nadu and Uttar Pradesh performing most poorly (NFHS-II, 1998-99).

Reasons for not Achieving Higher Immunization Rates

It has been suggested that one of the major reasons for not achieving 100% routine immunisation is the focus on campaign mode programmes in Health and Family Welfare. The Dept of Family Welfare has now taken up a scheme for strengthening of routine immunization. A pilot project on Hepatitis B immunization and injections safety has also been initiated.

There are several reasons that have been put forward for poor immunization rates, both globally and specific to the Indian context. According to the Ministry of Health and Family Welfare (GOI), the main reasons for low immunization rates and poor vaccine effectiveness as identified by the National Family and Health Survey 1998-99 (NFHS-II) are the following:

1. Inadequate delivery of health services (supply shortages, vacant staff positions, lack of training)
2. Poor maintenance of cold chain
3. Inadequate supervision and monitoring of the programme
4. Weak surveillance for all vaccine-preventable diseases except polio
5. Injection safety not assured

6. No provision made for medical waste disposal
7. General lack of inter-sectoral coordination, resulting in missing opportunities to improve immunization coverage and quality
8. Date, place and time of immunization sessions varied, making it difficult for parents to access services
9. Inadequate technical capacities among service providers, such as lack of clarity on proper methods of reconstitution of vaccines
10. Complacency, for several reasons such as belief that since some disease are not common and they are not important, or a mistaken belief that measles is a common and therefore not a dangerous diseases
11. Lack of support for ANMs from other staff at the health centres
12. Lack of updated information, education and communication (IEC) materials
13. Parental non-acceptance of immunization due to various reasons:
 - (a) lack of information/awareness of day/time/place of immunization sessions
 - (b) Lack of awareness importance of/need for immunization
 - (c) No one available to take child to sessions
 - (d) Lack of faith in immunization

It is clear from the above list that the problem lies at various levels in the system, including planning, training, and implementation and monitoring of the program. Some of these relate to inadequate resources, some to inadequate use of available resources either due to poor knowledge and training or due to inadequate management systems.

Infections in Children

NFHS-2 collected information on the prevalence and treatment of fever, Acute Respiratory Infection (ARI), and diarrhoea which are three major causes of mortality in young children; 30 percent of children under age three had fever during the two weeks preceding the survey, 19 percent had symptoms of ARI, and 19 percent had diarrhoea. About two-thirds of the children who had symptoms of ARI or diarrhoea were taken to a

health facility or health-care provider. Knowledge of the appropriate treatment of diarrhoea remains low.

Accessibility and Perceptions about Government Health Facilities

As it has already been mentioned earlier, government health facilities at all levels provide various RCH services whereby the Auxiliary Nurse Midwifery, family planning worker and the male health worker play the key role in delivering the services to the community. The report from DLHS-RCH 2002-04 shows the overall scenario of health services and functionalities provided by the health workers. It was reported that during the surveys, around 10 percent of the women in India reported that the health worker visited them at their residence at least once in the three months preceding the survey. The percentage of women in India receiving home visits is higher in rural areas (12 percent) than in urban areas (6 percent). However, there are at least 22 states and union territories, where less than 10 percent of the women were visited at home by health workers. In Arunachal Pradesh, Delhi, Manipur and Sikkim even less than one percent of the women were visited by health workers. But in Karnataka, Tamil Nadu, Daman and Diu, and Pondicherry 17 to 23 percent of the women were visited by health workers. The highest was in Pondicherry (23 percent). Women with a low standard of living (11 percent) seemed more likely to report home visits. There is not much variation by caste/tribe, level of education and availability of health facility in the village.

Women who reported a home visit during the three months preceding the survey were asked about who visited their households during the past three months and whether they were satisfied with the kind of services/advice received and the amount of time these health workers spent with them. Among women who received services at home, (at all India level), 88 percent received services from ANM/LHV, 13 percent from a male health worker and four percent from doctor. Seventy-five percent of women who received services at home were satisfied with the time spent with them and 87 percent of the women were satisfied with services or advice given to them (RCH, 2004-05).

Women who were visited at home by family planning worker, as well as those who visited a government health facility or any other health facilities during the three months preceding the survey were asked about the different topics discussed with the

workers during any of these visits. The topics discussed were health and family planning or any health related matter like child care, breastfeeding, immunization, nutrition, diseases prevention, antenatal care and postpartum care to the health workers. As expected, out of 28,461 women interviewed, pregnant women or women with child born after the reference period were much more likely than other women to report that they discussed childcare, immunization, antenatal care, and postpartum care. The major focus of discussion for pregnant women and women with children after the reference period during home visits was on immunization (50 percent). In addition, discussions were also on child care (16 percent), family planning (15 percent), and treatment of health problems (13 percent). Discussion about family planning was mentioned by 11 percent. And thirty-one percent pregnant women or women with children born during the reference period discussed on immunization (RCH, 2005-05).

Sanitation

At the time of independence only 4.5% of the total population of India had access to safe water supply and only 2% enjoyed adequate sanitation (Gupte, *et.al*, 2001). Recognizing the importance of safe water supply and adequate sanitation as an essential pre requisite to assure environmental and health safety, a holistic view was adopted during the first three five year plans wherein these components were integrated into and included as part of the health budget. However, such a holistic view did not sustain for long and by the fourth five-year plan, health was dissociated from water supply and sanitation (Bajaj, 1998). There was clear evidence for the low priority accorded to the provision of safe water supply and adequate sanitation during the five-year plan periods (Nath, 1998). Apart from the rural areas experiencing poor sanitary facilities, rapid urbanization and existence of slums in the urban areas had left the sanitary conditions in the urban sector at a dismal state. For example out of 4000 towns and cities only a mere 200 have a sewerage system, which incidentally is also only partial in many cases. Still fewer have sewerage treatment plants and these are also poorly maintained. To date less than 50% of the urban population have adequate sewerage systems. The existence of four lakhs scavengers and 72.1 lakhs dry latrines spread over 2587 towns provide ample testimony to this dismal fact (Nath, 1998).

Coverage of safe water has improved considerably from a meagre 4.5% in 1947 to 80% in 1997. Further, statistics reveal that the distance needed to be travelled to fetch water has been reduced from 1.6 km to 1 km in the plains and 50 metres in the hilly areas. However, even one kilometre is a long distance to fetch water – an essential commodity necessary to sustain life – considering it is the women who perform this activity. When long distances have to be travelled to fetch water, adequate supply and optimal quality of water have to be assured if water borne diseases are to be kept at bay. Adequate and safe environmental sanitation is an essential prerequisite if optimal benefits of safe and adequate drinking water supply are to be accrued. Provision of adequate sanitation has only improved from 2% to 29% in 1997 indicating thus that more than 70% of the population is denied basic amenities and are exposed to the hazards of diseases incidental to poor sanitation.

Environmental sanitation and water supply:

Only 29% of the population have access to sanitation. Sanitation is inadequate in both urban and rural sectors. Approximately 70% of the people are denied access to safe water supply. Here again both urban slums as well as rural areas have problems in procuring water, which is not only safe but also adequate. Inadequate safe water supply and proper sanitation provides predisposition towards the spread of several gastrointestinal and helminthiasis diseases. Water supply and sanitation get only 2% of the health budget (Nath, 1998).

Health Seeking Behaviour

People's view on the causes of illness influences their decisions on where to seek health care and what remedies to employ in an effort to regain health. Health is just more than signs and symptoms. Those who maintain their perspectives may seek to live a healthy lifestyle in order to preserve or regain health. The health seeking behaviour of mothers with regard to illness prevention and treatment determines child's health and survival. Moreover health beliefs are also important barriers to care seeking in addition to the maternal ability to recognise symptoms.

Delays in seeking appropriate care, and not seeking care at all, contributes to a large number of child deaths in developing countries. Existing interventions could prevent many deaths in children if they presented for appropriate and timely care. The WHO estimates that seeking prompt and appropriate care could reduce child deaths due to acute respiratory infections by 20% (WHO, 1997). A study conducted in Lucknow by Srivastava et.al shows that, most mothers were not aware of the danger signs of neonatal illnesses. During antenatal checkup, it was found that mothers received counseling on pregnancy care and on breastfeeding. However, post-natal counseling on neonatal danger signs was less received by mothers. Therefore, unawareness on these issues led mothers not seeking to health care during neonatal illnesses. So, there is an urgent need to train immediate neonatal caregivers, like mothers under Integrated Management of Neonatal and Childhood Illnesses (IMNCI) program. This would ensure prompt recognition of neonatal danger signs and consequently appropriate medical care seeking (Srivastava, *et.al.*, 2008) .

Among the rural poor in India, since most of them could not afford the treatment of an illness, and where cost of care is an inhibiting factor, some illnesses are categorised as 'not-for-hospital' as most of the mothers can be motivate to wait if illness subsides on its own. Lack of access to health care due to high cost is perhaps the most deterrent to optimal health care seeking in both urban and rural communities.

And in most of the cases, mother gave appropriate care significantly more often when the child had more than one symptom, and if the mother was more educated and when the illness was perceived as serious. And mothers sought for more care if the family income is more. And in most of the cases, mother's awareness about danger signs of childhood illness was poor. In the late 60s and early 70s, health professionals were viewed with suspicion when they visited the houses of people either to vaccinate their children or mothers. Today, however the scene has changed considerably with the public voluntarily coming to the health centre for getting their children immunized as also with the antenatal examinations undergone by the pregnant women (Gupte, *et.al.*, 2001).

CHAPTER – 5

AREA OF THE STUDY

Geographical Background

The village Saikot is located in the north eastern part of Churachandpur district in Manipur State. The area of the village is about 15 sq. km bounded by Saimankawn to the north, Vanparkawn to the south, Golui Stream to the east and Khuga River to the west. And the district lies in the south-western corner of Manipur state, which is a hilly district with a very small percentage of the area being plain.

Population

According to the Village Secretary record, the population consists of 6641 above the age of 18 years, out of which 3287 were male and 3354 were female. It was recorded, that the number of households were 662 households in 2007.

The main inhabitants of the village are tribes, who are called HMAR (68% of the population), and MIZO (32%) and 2% are other tribes, non-Hmar or non-Mizo.

Majority of the class/section were poor in their economic conditions and the main occupation of the village is cultivation/agricultural labour. There are 20% households who were APL card holders, 60% BPL Card holders and 20% were AAY (Antyodaya Anna Yojna, the poorest families) card holders. Under these schemes, they got rice and kerosene with a lower price. Poverty is rampant in the village. Though around 10% of the population are in government service, the total population comes under the category of Above Poverty Line and Below Poverty Line.

Occupation

The majority of the population in the village are mainly poor and majority of them are daily wage earner or labourer and their daily activities comprised of engaging in agricultural field and labour. Apart from their daily wages, the source of their income comes from their agricultural products. These agricultural products include rice, maize, cucumber, mustard, green leafy vegetables etc. The major crops of the village are rice

and passion fruits, and most of the villagers are engaged in this cultivation. Apart from these, the villagers planted varieties of vegetables like brinjal, pumpkin, soyabeans, chilly etc. These are the main products of the village from their agricultural land. There are no local industries, market or co-operative society in the village.

Settlement pattern

The total area of the village is about 15 square kilometres large. The settlement pattern of the village is that a road is running in the middle of the village where houses are situated on both sides of the road. A river also runs at the other side of the village boundary where water is fetched from.

Land-ownership

The pattern of land-ownership is individual. Majority of the family has its homestead land or compound with enough space for kitchen garden which is for growing vegetables. It is normally one plot big which is about 20 square yards in size.

A large portion of the land is also owned by the village chief towards the forest side and an individual has the right to do jhuming or farming cultivation for 2-3 years and not on a permanent basis.

Cultivable terraced land owned by individual is considered most valuable because it is the place where rice, the staple food is being cultivated. For cultivation of rice and agriculture, they borrowed lands from the others nearby villagers.

Occupation and Economy

Agriculture economy like wet or terrace and jhum cultivation are being practiced. Wet/terrace cultivation is for rice which is the staple food for the villagers. It is cultivated every year. Irrigation channels were used from rivers and streams. Jhum cultivation was mainly for growing crops. Seasonal fruits are also found in this village. Pigs and fowls are also reared for consumption and selling.

Education

There are 5 educational schools within the village which were established in the past decades. They are:

1. Stephen English High School
2. Saikot Government High School
3. Salvation Army Middle English School
4. Standard English Junior School
5. Hill Role English School

Among the schools, Saikot Government High School is the only government school in the village and structure of the fees in other private schools ranges from Rs.100/- to Rs.50/- per month.

Further, Industrial Training Institute was also established in the village to improve the capacity of young students for securing their means of livelihood. But majority of the trainees comes from other villages and it was not functioning properly during the time of conducting the field work.

Village Administration

The village has been administered by the chief who is called *Lal* along with the Village Authority (VA) members called the *Val-Upa*. The *Val-Upa's* are elected by the members of the village depending upon the size of the village. The chief is an Ex-officio chairman of the village authority. He is the only nominal head but has no power to rule directly or indirectly. All cases are decided by the elected authority members. Elections of the village authority are done after every three years conducted by the Sub-Divisional Officer and the District Commissioner. The village chief was traditionally hereditary administrator, but a powerless chairman who owned the land under the chief ship "patta" and has no power to exercise on it.

Within the village they have a public crier called *Tlangsamtu* who announced a public notice to the villagers. He is a messenger within the village who gave important information which is suppose to be noticed by the villagers. For instance, when immunization and vaccination were to be carried out in the village, he would announce

and give the message to the villagers, and if there are some information to be made for the work of the villagers like cleaning the village areas, he would also make an announcement.

Social Organisation

The people of Saikot are social minded community. They have organised societies, associations and social organisations. The clubs or other group's functions in the village apart from the Village Authority are;

1. Saikot Youth Club (SYC): This club has been set up by the Saikot youths to promote the younger generations in the field of sports and games.
2. Hmar Youth Association (HYA): It is an organisation of the Hmar speaking people and aim for the welfare of the Hmar community. Moreover, its main work is to solve crisis that may arises within the community, for example, to lend a helping hand in times of sickness, deaths and celebration.
3. Young Mizo Association (YMA): This organisation is organised by the Lushai speaking people and it aimed to look after their community socially improve in every field.
4. Citizen Welfare Association (CWA): This association made laws and enforced it in the village for enduring peace and harmony in the village.

Social Structure

The society is a patriarchal society where head of the family is the father. The traditional economic structure of the society is that everyone from the chief to the poorest in the village has the same occupation i.e. *jhooming*. Despite the fact that Christianity preached equality, it was traditionally believed that all are equal before the eyes of God. Therefore social stratification like in other states of India does not exist in the village.

Interview with the Medical Officer

The PHC was established in 1983. Presently there are 21 workers with no vacant post. There are 2 Medical Officers (male and female), 1 Pharmacist, 1 Microscopist (lab technician), 1 Male Health Supervisor, 1 Female Health Supervisor, 1 Extensive Educator,

4 ANM, 1 Community Organiser, 1 Clerk, 2 Counsellor (male and female), 5 Fourth Grade, and 1 peon.

There are 13 sub-centres under the Saikot PHC, and all the sub-centres are visited when an immunization were to be carried out by the ANMs and other health workers. One of the problems that they often faced narrated by the MO was that they face problems during the time of visiting the sub-centres as there are no proper road connections and they have to arrange their own transportation as the PHC does not have and provide vehicles to travel.

The main aim of the PHC is to provide health care to the village as well as to the nearby villages. The Out-Patient Department (OPD) functioned properly and immunizations were also carried out in this department. The other facility or service available in this health centre is also that nurses from Regional Institute of Medical Sciences (RIMS) Imphal, who are in their stage of internship, were exposed here to gain some rural experiences. The Female Medical Officer has guided them and gave them classes on community health care. Casualties like minor injuries were also looked after in this PHC. The MO had mentioned that sometimes soon, minor operation theatre would also start in this PHC. Ante-natal check-ups were also done here.

The timings of the PHC were from 10 am to 1 pm which is extendable till 2:30 pm. Approximately, 5-7 patients were visiting the health centre in a day during conducting the field study. As most of the villagers are engaged in National Rural Employment Guarantee Scheme (NREGS) work during this particular period, they do not have time for visiting the health centre. And if serious case happens, they are referred to the district hospital which is about 15 kilometres from the PHC. This hospital is above CHC, which is a hundred bedded-hospital.

Immunization and vaccinations were done in the PHC every Tuesday of the week. The PHC does get enough vaccines from the District Hospital, which is about 15 kilometres from the PHC. Data records on child's health regarding their weight, height or nutritional status, immunization, vaccination could not be obtained from the PHC. They were all submitted to the Chief Medical Officer; therefore enough data's were not available at the health centre.

Interview with the ANMs.

Three ANMs were interviewed and all of them gave more or less similar response. They came to the PHC thrice a week and visit their confined villages monthly for immunization and collect data for newborns and deaths and pregnant women. Two or three villages are covered by two ANMs depending on the size of the village. If one of the villages is bigger than the other villages, it takes two or three days to cover the whole village. Their area of field consists of two or three different villages, depending on the size of the village, and visits their respective villages to collect data by every month. All the data they had collected were submitted to the Chief Medical Officer. They do face problem in visiting their fields, as they do not have transport facility and is not provided by the Health Centre. They have to spend from their own pocket.

Every Tuesday of the week is the immunization day in the PHC. So on average, mothers who came for immunization to the PHC were around 20 to 25 in number. The ANMs recorded every data they had collected and also every vaccine they had given in the immunization card of the children.

Apart from the work of immunization, the ANMs were given lectures about health related services and other social welfare programmes by the Medical Officer (MO). Lectures were also sometimes given by other Medical Officers who were coming from other government hospitals in Manipur. During the year, lectures were given on HIV/AIDS, cancer (related tobacco), cleanliness, hygiene and sanitation.

They do not have any work apart from what has been mentioned above. They spent around 2-3 hours in the centre and go back. Only on their day of visiting their respective fields that they are busy. Otherwise as patients coming to the health centre are few, they have less work.

Whenever they visited their respective fields, they collect data and do the home visit with the help of the anganwadi workers. And when Pulse Polio Immunization is to be done they themselves go to the field and give the polio drops to the children. Sometimes they have to collect these vaccines from the district hospital.

Though they do not have a heavy work load, they do visit their field regularly i.e. every month by covering all their respective villages. At PHC they attended or go to their

duty every thrice a week. They also mentioned that patients or people visiting their PHC are less, so they do not need to stay for long hours

Interview with Anganwadi workers

The anganwadi centres in the village are divided into 3 centres A, B and C. Each centre has one worker with a honorarium of Rs. 1000 per month and a helper with Rs 700 per month.

Anganwadi Centre A

The first centre, centre A covers around 140 households. The Anganwadi worker was about 60 years old and the helper was 46 years of age. At first they were told to set up pre-school but no children could come as they attend the regular school within or outside the village. Mostly schools started at 8:30 a.m, so if a school going student is to attend a regular class, they need to get ready at around 7:30. Therefore timing could not be adjusted.

The anganwadi workers get money from the official which was Rs 750 for a month apart from the honarium they received, when they receive no ration which is to be distributed. With this money, they bought rice, sugar and milk powder. These were distributed among the poor children below the age of 6 as well as to pregnant mothers who collected from the workers house itself. As the workers do not get money monthly for buying rations, most of the time they faced lots of difficulties in distributing the ration to the targeted population.

The anganwadi workers also visit houses that come under her centre. They carried out messages to the pregnant women to get Tetanus injections and if children were seen ill, they advised them to go to the doctor immediately. And if children were seen to be malnourished, stunted or wasted, they tell them to go to doctor for their health check up. For example, when children were found to be underweight, they advised the parents to improve their food eating habits so that they eat more nutritious food. Mostly the mothers of these children were cultivator who worked in the field.

Anganwadi Centre B

This centre covers around 162 households within the five localities namely, *Lailak, New Saikot, Hmarveng, Homeland* and *Kanaan Veng*. The worker was around 50 years old who had started working from the year 1992 and her helper was 37 years old. During the time when she newly joined the work, she explains that children were called up in her own house and were taught to learn. But that happens only when there are foods or something to be distributed. So, enhancing child nutrition is difficult for, the rations supplies are not regularly received by them.

Whenever they get foods from the high officials, they prepared and distributed to the children who were told to come to her house. Children between 3-6 years of age were given chana, badam, and green leafy vegetables, whereas children between 0-3 years of age were given Balbhoc, (it is a powder, containing cereals, pulses and carbohydrates and is ready-to-eat food). When rations are regularly received, there were around 30 children who came to the centre and the amount of money they spent was between rupees of 90 to 100 for serving once.

During the year 2007, the major food for distribution, Balbhoc was received every month except by the month of February, April and October. In an average, the quantity of food they received was 50 kilograms. The supply of ration was irregular, but on the month of March, ration was received twice which were 40 and 50 kilograms each. Since rations were irregular, the anganwadi workers complained that they do not receive monthly; therefore, foods could not be distributed every month. But on May, 80 kilograms of Balbhoc was received, which was almost the double amount of food that they received in other months. The table 5.1 shows the rations received in the year of 2007 in Anganwadi centre 'B' as per recorded in the register of centre 'B'.

Table 5.1. Rations received by Anganwadi centre 'B' Saikot village, in the year 2007.

Months	Rations received
January	Balbhoc 50 kilograms
16 th March	Balbhoc 40 kilograms
31 st March	Balbhoc 50 kilograms
May	Balbhoc 80 kilograms
June	Balbhoc 50 kilograms
July	Balbhoc 50 kilograms
August	Balbhoc 50 kilograms, weighing scale, towel, soap case, 3 soaps, 8 spoons, 8 plates, bucket and a mug
September	8 plates, 8 spoons, chair and Rs. 850
November	One packet bandages, cotton role, de-worm (safe worm), 4 bottles of colcin, one bottle of benzyl benzoate and two bottles of eye drop

Though food was not received in the month of September, an amount of rupees 850 was received. The amount could be use for buying rations and supplementary foods for the month of September and October, but this was not mention by the anganwadi worker. During the time of visiting the centre, the anganwadi reported that around 70 children attend and collect supplementary foods.

The major food they got as a supplementary food was Balbhoc, which was kept in a tin containing 10 kilograms in each tin. Whatever they received were distributed among children as well as pregnant women. The amount of food they distribute depends on the quantity of food they received. If they get 40-50 kgs it can be distributed to all the required children. The anganwadi worker reported that if 4 tins were received for a month, then at least 3 tin gets over. She also reported that some of children used to come again and asked for more for their elder or younger siblings, but this could not be done as they received insufficient amount of food.

The anganwadi workers used to get these foods from the main office which is about 10 kilometres by distance from village, Saikot. The three workers usually went together by hiring rickshaw and spent not less than Rs 40 for their travelling. In a year they received not more than 7 times, which was not received monthly. The three centres

A, B and C used to distribute on the same day. For one household not more than 3-4 cup (pawa) were given.

The anganwadi worker and her helper used to do home visit as well. They collected profile of children under the age of 6 and giving a message that a child should get immunization and gave advice on cleanliness in order to live a healthier life. When immunizations like polio were carried out in the village, they used to help the ANMs and other health workers. If polio or immunization were to be conducted in a village, information was announced by the village public crier.

Anganwadi Centre C

The centre "C" covers about 157 children. The anganwadi worker in this centre reported that around 80 children come to the centre and 6 pregnant women used to come when there was food to be distributed. Apart from the supplementary food, some of the medicines that they received for the year are Paracetamol, de-worm, eye-drop and vitamin. But all of these are less in quantity. They also received weighing scale and children are weighed. The worker told that all the children in her centre are having a normal weight. So according to her, all the children were having a good normal weight and are nourished. They graded the weight of the children into 3 types, grade 1, 2 and 3 based on ICMR guidelines. But when she was asked on how children were measured, then she could not elaborate on it. Birth and death register were also maintained.

The food they got for distribution was mainly Balbhoc, which was same as in the other centres. During the whole year, they got rations for 9 times which were distributed among children and pregnant women. Each child could be distributed with only 35 grams of Balbhoc, as the food they received was less insufficient. And there were not enough materials like spoon and plates as well. The other complaint made by the anganwadi worker was that, sometimes the medicines they received were about to expire.

The services of the anganwadi workers in this centre also includes house visit. They collected the number of new born babies and also collect the profile of pregnant women. Apart from these, they also gave a message to pregnant women, which are to breastfed their children right after birth i.e. within 2 hours from birth, to eat iron tablets

and get the required vaccinations. And during the house visits, if children were seen to be malnourished or ill health, they suggest the parents to seek for health care at the earliest.

The anganwadi worker in centre 'C' had worked for almost 7 years. According to her, it is a tough job as the rations they received were insufficient and inadequate. Moreover, the high officials were corrupt which results in irregularity of food supply. As told by the officials, she even offer school going children in her centre for home tuition, but she complaint that these children do not accept the offer as they were scared of scolding and beating. And the reason behind it was, as reported by the anganwadi worker, due to their poor academic performance and do not like to reveal to others. Only when there are foods to be distributed they came to the centre.

She also complaint that compared to other states unlike other states in North East, the anganwadi centres in Manipur are not getting sufficient and enough ration. She further says that the anganwadi centres in Manipur does not serve its purposes. No enough food or rations were received for distribution; therefore supplementary foods they distribute will not improve the nutritional status of children as it was inadequate for the targeted population. As there is leakage of food procurement at the official level, the ICDS does not reach the poor or the targeted population. She also suggests that, if system in other states like Mizoram, could also be implemented in Manipur, where only those attended the ICDS centre were allowed to get admission in a regular school, so that this would allow regularity of ration and further improves the nutritional status of children.

Interview with the Mothers of Saikot Village

At the time of field visit, 20 mothers were interviewed. They were shy and are very introvert in nature. Out of the 20 interview schedules, 3 cases were taken as case studies. The village is big enough to cover, but with the help of anganwadis, households who have children below the age of 3 were easy to identify. Their existing family structures were more of nuclear as well as joint family and no extended family were found during the interviews. All of them were following Christianity.

Their traditional practiced was that if the husband was the youngest son in the family, and then they were supposed to live with his parents in the same house and look after his parents as well. But if the husband is not the youngest, then after children were

born, he along with his wife and children, were supposed to live in another house. These are patterns of residence they maintained to some extent.

Majority of them possessed land where their own house was built on it. Normally, the sizes of the land are 1 to 2 'plot' big which is around 20 square yard in size. Among the interviewed, 6 households live in a rented house and their existing family structure was nuclear family. And the types of houses are mostly 'kaccha's'. Majority of them used firewood and gas for cooking. There are electric facilities in every household but assets like AC, fan, cooler, refrigerator, telephone and vehicles are rarely found in the houses. About 6 household practice cattle rearing like pigs and cows. Majority of them are poor and their economic status is also very poor.

Their sources of drinking water are from hand-pump and river and the possession of water sources are common. All the mothers who were interviewed had done registration of child birth. Among the interviewed, 2 mothers have lost their child during the past 5 years and both of them do not complete their first year of age. One died at the time of birth and the other after 4 days and it was due to jaundice.

About the child-birth and breastfeeding practices, most of the delivery took place at hospitals, especially if it is the first delivery. It was found that only 2 mothers during the interview reported that the delivery of the child took place at home. And both of them reported that it was not their first child. There are no Dai or traditional health provider within the village. It was also found that 18 mothers started the initiation within 2 hours and all of them started breastfeeding after 2 hours from delivery. Infants were also fed colostrum due to doctor's advice. All of them breastfed their children exclusively for 4 months and then started supplementary foods. On the advice for breastfeeding, 2 mothers reported that they received advice from doctors and another 2 mothers received from their own mothers and the rest do not received any advice on breastfeeding. Among the 20 mothers who were interviewed, it was found that 18 mothers gave their children cooked rice which is crushed with cooked potatoes or dal as a supplementary food. And the other two mothers feed cerelacs apart from crushed rice as supplementary food. Mostly children were fed 3 times a day. And after they were one year they started giving solid food and when they become 2 years of age they eat normal food.

No mothers reported that they received an advice about treatment for Pneumonia from ANM/Health Workers. But all of them have vaccination cards and each of the child received polio vaccine, BCG and DPT vaccines. But all the mothers were not aware about the time when these vaccinations were given if they do not look at the vaccination card. And advices on vaccinations were received by all the mothers. Most of the mothers do not remember whether doses of vitamin A were given to their children. And their views on the benefits of immunizations were that, most of the mothers says it protect their children from certain diseases. On the opinion about providing better health care for children, few mothers suggested that if monthly check ups could be done in the PHC and at home by the doctors and ANM's.

When mothers were asked about major illnesses of their children, it was found that there were no major illnesses, except diarrhoea, cold, fever and cough. For example, home remedies like hot oil massage around the chest if the child is having cough or cold, were given before consulting any provider. If these home remedy did not cure the illness, then they go to doctors and they have full faith in them. The major problem that they faced while managing sickness is that, as majority of them are poor, they do faced financial problem especially if the case is serious. And when a child gets diarrhoea, most mothers are not aware of the treatment, such as giving ORS. And almost all children had suffered from cough, cold or fever during the past six months, and these were the common illnesses found among children in the village, Saikot.

When illnesses occur, 18 mothers reported that they usually go to "private doctors" (these doctors were also government employees who works in a District hospital, and can be consulted at their houses by paying an amount of 50 to 100 rupees as service charge) and not in hospitals, because the timings in government hospitals were during daytime which could not be adjustable for them as majority of them were daily wage earners of labourers. And "private doctors" could be consulted during morning and evening and these timings are more adjustable for them. It was more convenient for these mothers as people were usually less crowded and these "private doctors" could also examine the illness properly, unlike in government hospitals. These mothers also felt that they could explain their children's health problems more in details to private doctors, unlike in government hospitals where check up were done hurriedly due to long queues.

Majority of the mothers do not visit government hospital due to heavy rush and as the timings were not suited for them, as the timings are from 10 am till 1 pm.

Most of the villagers go to the PHC by foot as it is nearby in the same village. The ANM's does visit their houses and gave information about giving polio to children and check if there are pregnant women. There are no health programmes available in the village. There are 3 ICDS centre but is not functioning properly. Children do go there at the ICDS centre but not regular as they do not provide food regularly.

If children are still young i.e. till 4 months, then mothers usually stay at home as they are still exclusively breastfed. Mothers spent the whole day with their children during these periods, but when they are started with supplementary food, mothers do not spent the whole day with their babies. They went for their work and do other chores. 99% of the babies' weighs 2500grams at the time of birth, i.e. majority of them have normal weight at the time of birth.

About the government health services and client satisfaction, 90% of them go to PHC for minor illnesses. And majority of the mothers says that an ANM visits their houses and they were satisfied with the amount of time she spent with them. The PHC timing is convenient for them and it is convenient to reach as well. They do not have to wait for long queue, and some of the medicines were also available at the centre. And they do not have to pay money as well.

Most of the mothers preferred "private doctors" in times of illness and sickness. But only when illnesses are considered as serious, they go to these doctors. For minor ailments they simply treat at home.

Case Study 1

Saithangpui, who is a mother of two children, was interviewed. She was a housewife and her husband was working as a sepoy under the Government of India. She had done till her matric and she live with her two children, the younger male child, 11 months old and the elder female child is 5 years of age. Her first born child died 5 years ago, due to jaundice and the child survived for only 4 days. They were living in a 'pucca' building house, with a compound enough space for kitchen gardening, which was owned by them.

The nature of fuel which they used for cooking was LPG gas. As her husband work as a government employee, their economic condition is much better than the other mothers whom were interviewed.

Their source of drinking was from the hand pump which was a common source for the locality and their sanitation facility for toilet was a flush toilet.

All her children were delivered in Government hospitals. The nature of birth for the first two children was normal and the third child was caesarean. All her children were started initiation within 2 hours from birth. She fed colostrum to all her children and exclusive breastfeeding till the age of 5 months. Supplementary food was started after the completion of 5 months. Foods given as supplementary were, cerelacs till the completion of 8 months and cooked rice crushed with dal or potatoes were fed after the completion of 8 months, and fed twice a day. Her elder child used to go to the Anganwadi centre, but she said that foods were distributed in a very less amount and it is not sufficient for the child's nutrition.

During her pregnancy, advice on breastfeeding was given to her by a doctor telling her that, breast milk is child's right and after delivery the first milk is good for an infant. And before feeding the child, she was advised to clean up her nipples by cotton with warm water. She said that these were practised by her with every child.

What she believed as good food for children are dal, potatoes, and green leafy vegetables which are properly cooked with more amount of time. And what she considered as bad foods are meat, uncovered foods and foods which are sold in an open space.

All her children were given complete doses of immunisation or vaccination as she was told by the ANMs during their home visits. When asked about the vaccinations/immunization given to her child, she does not know the details but she replied that whatever was required was given. She has the vaccination card, where immunisation/vaccination given to her children was recorded by the ANM.

According to her, the benefits of immunization for children are (i), the children have good health, and (ii), they can eat food with good appetite and are nourished. Her views about what should be done to provide better health care for children, is that, children should not be left alone in the house because spending time with children is

valuable. She also suggested if lectures on managing households, child's psychology and counselling for parent relationship by experts were held in the local area.

All her children had suffered from, at least, fever, sore throat or cold/headache in the past three months. And when these illnesses occur, she consults doctors at the first place. Managing sickness or illness at home was difficult for her especially during nights as her husband was away for most of the time due to his work. Therefore she kept what she called 'first-aid box' at home, where medicines for fever, diarrhoea and minor injuries were stored.

When her children are getting diarrhoea, she continues normal food and breastfeeding. And when her children are ill, she took them to "private doctors". (again "private doctor" are not private practitioners, but an MBBS doctor working in a Government hospitals whom they can consult at home and pay consultation fees for not more than Rs. 100/-). The reason why she preferred this doctors were that, they are considered to be more reachable and did the health check ups properly. She could narrate all her problems and the timings are more adjustable for her as these doctors are also available in the morning and evening. She is more satisfied with the amount of time she can spend with the "private doctors". In Government Hospitals, she further said that, people were more crowded causing heavy rush, doctors hurriedly did the check up and she is not satisfied with it. Moreover, the location of the hospital is far off for her and because of heavy rush, doctors/health workers could not examine the patient properly.

Case Study 2

Liani, who is a mother of two sons, had studied till 6th standard. Her husband is a cultivator. They are living in their own house with all her in-laws. The total numbers of persons living in that particular household are 8 in numbers. The type of house in which they lived is a "pucca" house and they have their own land which is about 3 *pari* big in size which was used for cultivation of rice. They have scooter and reared pigs and ducks for consumption and selling. Their main income comes from rice cultivation.

Their source of drinking water is from hand pump and for other uses they fetch from the nearby river. For sanitation facility, they have flush toilet as well as pit-toilet.

The drainage system of the residence was “kaccha” and the nature of fuel used for cooking was gas and fire wood.

The delivery of both children took place in Government hospital and the nature of birth was normal. She could not remember the time of initiation for both the children. At the time of interview, the elder child was 4 years and the younger child was 4 months of age. Both the children were given colostrum and were given exclusive breastfeeding for two months. And after completion of two months, she started other supplementary foods along with breast milk. As a supplementary food, cerelacs and rice crushed with dal or potatoes was given to her child thrice a day.

During pregnancy, she said that nobody advised her on breastfeeding and she did not inquire to anyone because she thought that it would not be necessary for her. When she was asked whether complete immunization and vaccinations were given to the children, she gave positive response. But when she was asked whether BCG vaccination against TB were given to the children, she replied that she was not aware of such vaccinations. And when the children are suffering from diarrhoea, she continued breastfeeding and gave normal food. Doses of Vitamin A and Measles injection were not given to her children. The reason she replied was, she did not considered that it would be important for the child’s health.

The ANMs and health workers hardly visited her house every month. And even when they visited houses, they did not give enough information for children and pregnant women. An ICDS centre also exists in their locality but they hardly go there as they do not get sufficient amount of ration.

When illness or sicknesses occur they usually go to “private doctors” rather than government hospitals. The reason was that they could go to the doctors’ house and explain all their problems related to their health, and it was not crowded unlike the government hospitals. In government hospitals, they have to queue for OPD tickets and it was time consuming. One of the main reasons for not visiting the government hospital was that the location was not convenient for them as it was far from their house. They went to the PHC only for immunization and minor injuries. Otherwise they went to the “private doctor” for all kinds of their health related problems.

No major illness had occurred among her children but cold and fever were common. And when her children were ill she just gave them the medicines which were prescribed by the doctor during her first visit. And her younger child suffered from cold or chest pain every month. Though she consulted the doctor he did not get well. So she practised home remedy such as massaging the child's chest with warm oil along with garlic paste whenever the child gets ill with cold or chest pain.

She could not elaborate on her views on child's health and was not aware of danger signs and symptoms of any childhood diseases. According to her, immunizations and vaccinations were also done due to the ANMs and health worker tells her to do so. She was too busy in her other household chores like cooking, cleaning and giving more priority to her in-laws; therefore she could not spend enough time with her children.

Case Study 3

Zothahnieng, was a mother of three children and her husband was a carpenter, He could hardly supported his family, because the amount of money he could get from his work are insufficient and most of the time he had no work to engaged with. She studied till the 5th standard and had given birth to four children. One of her child died due to chest pain when he was two and nine months old. The eldest son was 5 years old, second was a daughter who was 3 years old and the youngest son was 8 months old. They lived in a "kaccha" house which was rented by them. Their economic status was very poor. No cattle or land was possessed by them. They lived with whatever money they earn.

Drinking water was fetched from hand pump which was located near their house. They used pit-toilet for sanitation facility and the nature of fuel used for cooking was both LPG gas and fire wood. They do not have cattle or vehicles. Their income depends on whatever her husband had earned from his work.

She delivered three of her children at hospital and her youngest child was delivered at home. The nature of birth was normal except for her third child, which was caesarean. An ANM and a Doctor helped her during the deliveries. Initiation of her children started during 24 hours from delivery. Colostrums were fed to all her children, though she did not know the benefit of colostrums. The children were breastfed an exclusive breastfeeding for 6 months and after the completion of six months, semi-solid

foods were started along with breast milk. As supplementary foods, rice crushed with plain water or dal was given to her children. As they were poor she could not afford to give other food which she believed to be more nutritious and good for children.

During the time of her pregnancy, nobody advises her on breastfeeding but she learned it from the other mothers who were experienced. All of her children were not fully vaccinated or immunised as per the required doses though she was told to do so by the ANMs and health workers. The reason behind it was, when the child were vaccinated or immunised their temperature usually gets high and it create problem for them as they could not afford to buy medicines every time. Moreover she does not see any benefit of immunizing the children.

Some of the illnesses that usually occurred among her children were fever and cold. Apart from the prescriptions given by doctors, home remedy like massaging the child's chest with warm oil was usually practised. And during diarrhoea she continued giving normal food as well as breastfeeding. Even when she was visited by the ANMs or health workers she was not told about what to do if the child gets diarrhoea. Only when she consults doctor, was she told about it. And she was not aware about any of the signs and symptoms of childhood diseases.

When her children were sick or ill, she goes to private as well government hospitals. She also goes to the PHC as they gave medicines free of cost. But she was not satisfied with the government doctors as she could not explain all her problems before them. The amount of time she can spend with them was less and it was crowded unlike the private and the PHC.

Perceptions and Health Seeking Behaviour among Mothers of Saikot Village

Belief in God was the practice right after Christianity had come. Help is sought through prayer by having faith in God. Prayer is often used to restore health and to pray for daily needs and protection from illness. These prayers are holistic, encompassing all aspects of life. A low level of education may have a negative influence on their health seeking behaviour as illiteracy prevents an individual from reading, understanding and following health instructions. Religious beliefs are very strong that as the Bible (James 5:16) states that, "Confess your faults one to another, and pray for one another, that ye

may be healed. The effectual prayer of a righteous man availeth much". Religion and culture are interrelated and influence health, illness and health seeking practices in these village.

Mothers were asked the factors that influence their health seeking behaviour and assess how their behaviour affects infant and child mortality. Mother with a higher level of education is more likely to utilise the health care services than mothers with a lower levels of education.

The ICDS centre in the village has many problems with implementation and resources. The availability of rations was insufficient and the Anganwadi workers were also untrained and inadequately supervised. Therefore most of the mothers do not seek health provision for the health of their children. Moreover, only when rations were available, children go to the ICDS centre. But most of the time children below the age of three were unconcerned and neglected and only children who could go by themselves at the ICDS centre were able to collect their supplementary food.

Majority of the mothers do not visit the Government hospitals but rather consult doctors at their houses. Most of the mothers cited the reason as it was more convenient as well as satisfactory. In government hospitals, people were crowded therefore doctors done the examining hurriedly. Some of the mothers also find that staffs and other health worker who were at the government hospitals were not friendly. As the government do not charge fees, mothers believe that this was the reason for not doing the check up properly. In private, they paid fees therefore doctors examine them properly. Most of the mothers do not go to doctors or health workers if the cases happen to be not serious. One of the reason was because of the poverty that they could not access health care in the times of need. And if the sickness required test, many mothers could not afford the test the doctor recommended, therefore most of them do not visited the health worker. Therefore it is clear that only families with a better of economic status has the resources needed to obtain care for their children and other members of their families.

Majority of the mothers are not educated properly and awareness about the children's' health by their mothers were not satisfactory. However, they are immunizing their children. From the study, what can be gathered is that, out of 20 mothers, those who at least passed their 10th standard are more curious about their children's health and are

having more knowledge about children's health compared with rest of the mothers. Therefore, what can be learned is that education plays an important role in child's care. As majority of them are poor, most of the parents could not afford to buy foods that were believed to be more good and nutritious for their children. And since all of the mothers were labourer and housewife, they could not stay with their children for all day after their child complete the age of four months. They were left at home with their elder siblings or grandparents. The mothers were usually engaged with some other outside work, like going to fields and picking fire woods. So during these periods enough foods were not given to the child as they were mostly looked after by their elder siblings or by their in-laws. Most of the foods given as supplementary or solid foods were all the same which were practised by all of the mothers. Children and infants were breastfed but added substances for foods are not nutritious enough for the child's growth. Since poverty was rampant, their economic status was also poor.

However most of the mothers complained lack of adequate nutrition in the Anganwadi centres. Moreover, the Anganwadi workers were untrained and not supervised, they are not skilled therefore majority of the mothers preferred to go to the private doctors and spend money in treatment.

SUMMARY AND CONCLUSION

Children's health indicators can be determined by looking at the rates of morbidity and mortality of the children. It can also be understood by looking at the coverage of immunization, nutritional status and the health care infrastructure. Importance has been given to the child's health interventions, policies and programmes which have been proposed by WHO, UNICEF and World Bank at the highest level. But till today, what could be achieved at the ground reality is still unsatisfactory.

As already been mentioned, many studies have shown that a child should cross all the development stages with success so as to achieve all developments in life. This is in contrast when we look at the Indian situation on child's health. Majority of the children are still dying from most of the vaccine preventable diseases that can be protected by giving complete immunization. Majority of the children, who live in rural areas are most affected, because these children are prone to malnutrition and malnourished diseases. In India most of the children live in hunger and the resources available are inadequate.

Most of the reports and surveys have shown that in India, children below the age of three are having bad health indicators even when compared to the neighbouring countries like Nepal and Bangladesh. Malnutrition has been one of the major causes of child's death in these regions. Inadequate diet, food scarcity, inappropriate feeding practices and lack of safe drinking water and sanitation are some of the major causes for malnutrition and ill health. Marginal coverage of immunization also happens to lead to child's death.

The indicators of children's health across North East region in India also varies across states which affects the health and the over development of the child. The NFHS reports have shown that children in these regions are found to be malnourished. ARI, pneumonia, diarrhoea, anaemia and fever are also prevalent in the states. Though breastfeeding is universal in these regions, the beliefs and practices influenced by their traditions and customs are still affecting the health of the children. Proper feeding practices and exclusive breastfeeding till the age of six months were practice rarely by the mothers as reported in NFHS-2.

This practice is also evident in most of the other parts of India as well. Beliefs and practices about child's care are influenced by the mother's perception about ill and good health. And each society and community also do have their own way of looking ill health and good health and this belief do varies across each states. Each society also has their own perceptions and practices related to breastfeeding, nutrition and immunization. And in most of the rural villages, mothers and care givers are not aware about how their perception and beliefs are affecting the child's health. Therefore, what is considered as good for an infant or children in some society can be harmful for the growth of the child.

Though, there has been a state intervention, policies and programmes on child welfare, some of the programmes do not reach the targeted population. In spite of ANMs and other health personnel visiting the houses, there are still reports that it does not bring changes in the overall health development for the child. Therefore, accessibility, availability and feasibility of health services are still questionable in most of the field of child health development.

The studies have pointed out that the health conditions and health status for children under the age of three has been still deteriorating although many interventions and strategies have been implemented in the health programmes. The condition happens to be worse in the developing countries. Inadequate resources, unavailability of food and poverty are the major reasons for ill health and child deaths. When children are deprived from these resources, they become more vulnerable to diseases which led to infant and child mortality.

The universal immunization against 6 vaccine preventable diseases (VPD) by 2000 was one of the goals set in the National Health Policy (1983). This goal however has not been achieved. Further, the core objective for ICDS in the Eleventh Five Year Plan (2007-12) is "universalization with quality" (Planning Commission, 2006). This involves ensuring every hamlet has a functional anganwadi, ensuring all children under six and all eligible women have access to all ICDS services and enhancing the quality of ICDS services. In the Eleventh Plan, there are recommendations and strategies for Infant and Young Child Feeding (IYCF) as well. Most of the resources and strategies are looking at children above 2 years of age, but during this plan, it had reorganized resources for children 6 to 12 months and entirely directed to skill building training

capacity development and counseling services for Infant and Young Child Feeding (IYFC), as much as it had already spent on immunization services (Planning Commission, 2006). Whether these core objectives can be achieved is still a question mark with the kind of findings from Saikot village in Manipur, which is a better state in North East as compared to other states.

In general, the health status and determinants of child's health also varies across states and regions. In most of the states in India, children are more ill-effected in villages where poverty is rampant. Most of the studies, survey and reports showed that children are not receiving the minimum requirements of food for their health development. Though, various interventions and health programmes have been introduced in most parts of the country, children health status is still far from satisfactory.

From the exploratory study of the village, Saikot it was found that 60% of the population are below poverty line and 20% are above poverty line. Another 20% are under Antodaya Anna Yojana, which means they are the poorest. Thereby, it can be concluded that the village has a structural problem, which affects the health of the child.

Majority of the people in the village, Saikot, were daily wage earners and poor labourers. Therefore, mothers could not spend enough time with their children as they are also bounded by other household chores. As work pressure also limited their spending time with children, lactating mothers were not able to give adequate time and care to their children. The infants, after four months, were left with elder siblings and grand parents, thereby not able to breast feed during the day. Moreover as their incomes are limited, they could not go to the health facility frequently and seek health care of the child. Again, spending on health care becomes a difficult task for them as they could not always afford to do so. Only when the case becomes serious, they go to the doctors. Since, most of the government health facilities are crowded, most of the parents went for "private doctors" in order to escape long queues and more attention. But this had become difficult for them as money is required for consultation.

It was found that most of the mothers and health care givers were not aware of different grade of malnutrition. To them, understanding children's health and awareness of childhood diseases and its symptoms are still vague. However, mothers who had done

matric and above were better aware of childhood illness compared to mothers who had done their primary education or illiterate.

According to UNICEF (2004), it was found that Anganwadi workers are inadequately trained, supervised and supported in the issues related to child nutrition and MCH issues. It is expected that the health worker, while doing home visits, teach the mothers how to recognized diseases early and when to seek medical health. From the study of the village, it was found that health workers who were supposed to monitor various aspects of children's health were not contributing to the services. And most of the ANMs and Anganwadi workers are untrained and not supervised for carrying out their work. The ICDS centre in the village is underused at the same time there are erratic provision of supplies and leakage in food procurement. The Anganwadi workers are not performing their duties as required in bringing the issue of child nutrition, preschool education and MCH issues. The ICDS do not serve its purpose, as food supplies were also irregular. Only supplementary foods are received which are also inadequately distributed among children and pregnant women. These finding are also reported in the study conducted by Allen and Gillespie, 2001.

As per RCH programme 2002-04, health workers are expected to make regular visits to each household in their assigned area. And the health workers are supposed to monitor various aspects of the health of women and children, provide information related to health and family planning practices and deliver other selected services. The study in Saikot Village finds that this is not done as per the guidelines. The supplementary nutrition programme has been dominated ICDS and the main focus of SNP has been on children in the age group of 3 to 6 years. Younger children have been comparatively neglected as was also found in the study by Gupta, (2006).

As per the Ministry of Women and Child Health, Government of India, 2006 document, there is a call for expanding the support services of crèches and day care services to reduce the burden of the working and ailing mother and of the girl child. This is not fulfilled in the village, Saikot. It has been recognized by the Planning Commission that the major concern is for children below the age of three years who are virtually excluded from ICDS. More effective coverage of children under three years should be one of the objectives of ICDS in the eleventh plan.

To improve child health, still there is a long way to go and there are many concerns and goals to be achieved. However, the desired results can be achieved only by integrating with the other developmental issues like employment opportunities, livelihood opportunities, raising the living conditions, improving water and sanitation facilities, education and providing crèches facilities.

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APPENDIX

Interview Schedules for Mothers

A. Serial No. B. Name of the Locality

C. Name of the Respondent D. Religion

1. Existing family structure: Nuclear

Extended

Joint

2. Family size: No. of Male Children

No. of Female Children

Total Members

3. Household Census/information

Head/Name of the family members	Sex	Age	Marital Status	Education	Occupation	Relationship with the head of the family

Socio-economic conditions:

4.1 Land Occupied (plot/pari/etc)

4.2 House Dwelling: Own

Rented

4.3 Type of House: Pucca

Kaccha

Mixed

4.4 Electricity Facility: Yes

No

4.5 Television Set:	No Black & White Coloured
4.6 VCR:	No Yes
4.7 Radio Set:	No Yes
4.8 Temperature Control:	AC Fan Cooler None
4.9 Other Systems:	Tape-Recorder Telephone None
4.10 Vehicle Facilities:	Scooter Car Rickshaw By-cycle Van Others None
4.11 No of Cattle:	Sheep/Goat Cow Buffalo Pigs Horse Others
4.12 Monthly investment Pattern in Rupees:	Ration Education Medicine

- | | |
|-------------------------------|-----------------------------|
| | House Rent |
| | Electricity Bill |
| | Other Expenditures |
| 4.13 Monthly Savings: | N.A |
| | Bank |
| 4.14 Yearly Investment in Rs: | N.A |
| | House Construction |
| | Cattle/Livestock Purchasing |
| | Vehicle Purchasing |
| | Plot of land Purchasing |
| | Any Purchasing |
| 4.15 Any Major Expenditures : | No |
| (within a year) | Marriage Ceremony |
| | Birthday Party |
| | Death Ceremony |
| | Health Expenditures |
| | Others |
| 4.16 Economic Status: | Well Off |
| | Not So Poor |
| | Poor |
| | Very Poor |

HEALTH STATUS

- | | |
|---------------------------------|----------------|
| 5.1 Sources of Drinking Water: | Tap water |
| | Deep Tube-well |
| | Hand pump |
| | Pond |
| | River |
| | Others |
| 5.2 Possession of Water Source: | Own |
| | Common |
| 5.3 Sanitation facility: | Flush Toilet |

- Pit- toilet/latrine
Open Fields
Others
- 5.4 Drainage system of Residence: Pacca
Kachha
Mixed
- 5.5 Registration of Child Birth:
Yes
No
- 5.6 Registration of last Death
Occurred during last 5 years:
Yes
No
- 5.7 Child Born in the house
during last 5 years:
No. of Births
No. of alive
Abortions
Still births
- 5.8 Nature of fuel use for cooking:
Gas
Kerosene
Fire Woods
Electric Heater
Cow Dung
Others
- 5.9 Refrigerator/Fridge:
Yes
No

Child Birth and Breastfeeding

1. Where does the child delivery took place? Home
Hospital
2. What is the nature of birth? Normal
Caesarean

	Minor Cut (medical term?)
3. Who helped during the child delivery?	Dai Relative Husband ANM Any Other
4. When does the initiation started?	Within 2 hrs 8 hrs 12 hrs 24 hrs
5. What do you give for pre-lacteal food?	Water Jaggery Local..... Top milk
6. Did you feed colostrums?	Yes No
7. Why do you feed colostrums?	
8. How many months exclusively?	2 months 4 months 6 months
9. When did you start supplementary food?	4 months 6 months 8 months
10. What were given as food?	
Composition	
11. How many times a day?	2 times 4 times 6 times

Immunization and child care

1. Name of the child
2. Sex of the child Date of birth
3. When was your last delivery?
4. When you were pregnant, did anyone advise you on breastfeeding? If yes, who?
5. When did you start breastfeeding your child? Within 2 hrs of birth, Within 2 hrs after birth, After 2 hrs but on the same day, 1-3 days, others
6. Are you still breastfeeding your child? (if the child is the youngest child)
7. How many months did you breastfed the child exclusively?
8. At what age of the child did you start giving semi-solid food?
9. At what age of the child did you start giving solid food?
10. Do ANM/Health worker advise you about treatment of Pneumonia?
11. Do you have a card where vaccinations are written down?
12. Was polio vaccine (OPV) given to the child? (drop in the mouth immediately given after birth)
13. Was BCG vaccination against TB given to the child?
14. If not, why the reason: Child is too young, Not aware of it, Mother too busy, Child was ill, Family problem, Vaccine not available, No specific reason, Others
15. At what age BCG vaccine was given? Age in month, Do not remember
16. Was a vaccination against Diphtheria, Whooping Cough, and Tetanus (DPT) given to the child?
17. How many DPT injections were given?
18. At what ages these injections were given? First injections in months, Second, Third, Do not remember
19. If these injections were not given, why? (To ask why not given)
20. Did ANM/Doctor advise you to get doses of DPT vaccine?
21. Was polio drops given to child?
22. If yes, how many doses
23. At what age polio doses were given?
24. If all required doses were not given, why?

25. Did any ANM/Doctor advise you to get doses of polio vaccine?
26. Was measles injection given?
27. At what age?
28. If not given, why?
29. Did any ANM/Doctor advise you to give Measles vaccine to your child?
30. Was a dose of Vitamin A given to your child?
31. If yes, how many doses?
32. In your view what are the benefits of immunizing the child?
33. In your opinion, what should be done to provide better health care for children?

Diseases and Illnesses

1. When was the last major illness among your children?
2. What was the illness?
3. What home remedy treatment did you give before consulting any prescriber?
4. What problems did you faced while managing the sickness at home?
5. Does it require any hospitalization?
6. Do you know what to do when the child gets diarrhoea? Do not know, Give ORS, Continue normal food, Continue breastfeeding, Give plenty of fluids, Others
7. Has ANM/health worker told you to do if a child has diarrhoea?
8. Do you know the danger signs of Pneumonia?
9. If yes, what are they? (tick all appropriate responses) Difficult breathing, Chest indrawn, Not able to drink or take a feed, Excessively drowsy and difficult to keep awake, Pain in chest and productive cough, Wheezing/whistling, Rapid breathing
10. Do ANM/Health worker advise you about treatment of Pneumonia?
11. Did any of your children suffer from cough, cold or difficulty in breathing in the past six months?
12. If yes, what did you do? (tick appropriate response) Did nothing, Home remedy, Went to govt. facility, Went to private facility, Others

Health Services and Health Seeking Behaviour

1. Where did you go when illness occur? Private or government health centre?
2. Why did you decide to seek care from a health facility/provider?
3. Is there a Govt. health facility in your village?
4. If yes, a PHC, sub-centre, or others?
5. Approximate distance of the health centre from your home?
6. How do you generally travel to the health centre?
7. Time taken to reach the health centre.
8. Does the ANM visit you?
9. Does she provide information?
10. . Health care facilities/programme available in the last year.
11. Who informs you about these programmes?
12. Is there an ICDS centre in your village?
13. How many?
14. Do children go there?
15. Do your children go there?
16. Are there any private practitioner/traditional healer in the village?
17. Do you visit the private provider?
18. Whom do you prefer? A private or MBBS Doctor? Why?
19. What is your perception about the health provider?
20. . Costly, opening regularly, treating well, gives better services than PHC, any other?

Nutrition

1. What are the children fed?
2. How many times?
3. What are the anganwadi records for malnutrition levels? Height/weight measurement
4. How is the mother's nutrition level and working nature?

Qualitative/Observation

1. What is the nature of work of the housewife? Labourer, Field worker, Other
2. How is the time spent with the child?

Traditional and cultural perception and behaviour

1. What according to you are good foods for children?
2. What are bad foods for children?
3. What do you give as home remedies for: Diarrhoea, Pneumonia, Diphtheria, Whooping cough
4. Who are the traditional healers in the village?
5. When do you take the child to the traditional healer?
6. For what illnesses?
7. What treatment do they give?

Assessment of quality of government health services and client satisfaction

1. Did ANM or any health worker visit your household during the last three months?
2. If yes, who visited your household?
3. Were you satisfied with the amount of time spent with you?
4. Have you gone to any Govt. health centre/hospital/CHC/PHC/SC during the last three months for any treatment?
5. If yes, where did you go? CHC, PHC, SC, Govt hospital
6. Is the centre timing convenient?
7. Is the centre convenient to reach?
8. Was the doctor/ANM available when you went there for treatment?
9. Did you have to wait long for service?
10. Was there privacy where you were examined?
11. Were the staffs at the centre friendly?
12. Were the medicines available at the centre?
13. Did the health staff explain how to take medicines?
14. Did you find the treatment at the centre effective?
15. Did you have to pay to the doctor or staff any money to get treatment?

16. Would you recommend this centre to your friends/relatives?
17. If not visited, what is the main reason for not visiting? No need, Not conveniently located, Time is not suited, Poor quality of service, Heavy rush, Non-availability of doctors or health workers, Rare availability of doctors or health workers, Doctors/health workers do not examine properly, Medicine not/rarely given, Services are charged, Prefer private doctors, Others

Interview Schedules for Health Personnel

Name and designation.....

Date and time

1. What are the facilities/services available in the PHC?
2. How many workers at present? What are the posts?
3. No. of patient visiting the health centre? (approx)
4. What are the timings?
5. How does the Centre and the staffs function?
6. Are there any programmes which promote mother and child's health?
7. If yes, what are they?
8. If an emergency case happens, where do they refer?
9. Are there family planning programmes? What is the community response?
10. Are there any programmes to educate mothers in child care practices? E.g. breastfeeding, nutritional education, child rearing practices, prevention and control of diseases, counselling etc
11. Are there any data records for children? e.g. child's health status, weight and height chart, measuring child's nutritional status
12. What are the child welfare programmes?
13. What all includes vaccination and immunization programmes?
14. Are the vaccines enough? If not where do they get?
15. What are the problems that they faced if there are no enough vaccines?
16. How is the immunization scheduled?
17. Is there vaccination/immunization campaign?
18. Do mothers have immunization cards?

19. If yes, do they bring when visited health centre?
20. Where do they store vaccines?
21. How do they determine if a child is malnourished, underweight, wasted or stunted?
22. How do they determine if a child is growing well within a period of time?
23. What are the facilities and medical care given to the surrounding areas?
24. What are the problems they faced when delivering various health programmes?
25. What are the perceptions of various health facilities?
26. What are the health behaviour of the village community in terms of specific health problems and health programmes?
27. What is the present status of health facilities?