FOOD SECURITY AND CHILD LABOUR: A CASE STUDY OF BIRBHUM DISTRICT IN WEST BENGAL (2012-2013)

Thesis submitted to Jawaharlal Nehru University
in partial fulfilment of the requirements
for the award of the degree of

DOCTOR OF PHILOSOPHY

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2017

DEDICATED

TO MY PARENTS

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Date:-21/07/2017

DECLARATION

I, Kundan Kumar Das, hereby declare that the thesis entitled "**Food Security and Child Labour: A Case Study of Birbhum District in West Bengal (2012-2013)**" submitted by me in partial fulfilment for the degree of Doctor of Philosophy of Jawaharlal Nehru University, New Delhi, is my bonafide work. It has not been submitted so far in part or in full, for any degree or diploma of this University or any other University.

Kundan Kumar Das.
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CERTIFICATE

We Recommend that this thesis be placed before the examiners for the evaluation.

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New Delhi *(Kundan Kumar Das)*

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CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION:-

Child labour has become one of the alarming problems in our society and needs an urgent attention. It not only affects childhood and children's development, but also the total development of the society. Children are like assets for a society. So children's proper growth and development is significant for a nation.

"Child labour is a sub-sect of child workers. When child work threatens the health and development of children, it becomes child labour[1]. Even after sixty six years of independence, India has the largest arsenal of working children as well as the largest number of children who never went to school or drop out schooling".

1.2 CONTEXT:-

Many assumptions have crept into the "child labour" discussion. The simple reasoning involves on one hand an exaggeration of the problems and on the other hand the isolation of the child labour problem from macroeconomics.
Childhood in a country like India is characterised by two fundamental problems:

- The actual labour that children are compelled to do, and
- The exclusion from the education system.

Many of the protagonists have argued that the solution is a combination of anti-poverty strategies, particularly food-based interventions, and universal education.
Ramachandran in her introduction "goes halfway in identifying child labour as child labourers and also any work done by children which allow parents to spend more time on productive work, including all those children who remain outside the portals of the school. The concept of child labour has been used in three different ways. Ramachandran makes a valid point where arguing that the focus should not be on the narrow category of around 11 million child labourers but on the approximately 80 million other out of school children as well".

[1]Fyfe, A (1988): "Child Labour", New York: Oxford University Press.

“Food security is premised to be a crucial variable in explaining the derailed childhood of both actual child labourers and the deprived out of school children. Indira Hirway used empirical data which have been collected with a one day recall method in a stratified sample of more than 18000 households, to provide useful information about the relationship between child labour and the other activities in which children are involved. On the basis of material, one could suggest that definitely not all the nowhere children are child labourers.

There is a relationship between poverty and child labour. The relationship is obvious, but what is the exact correlation, and what are the causal aspects at play is very important to answer. Most of the cases, blame is thrown up on the parents. A remarkable difference between the children of the poorest families and the less deprived families is not so much that the former are working more, but that their school dropout rates are much higher”.

Mahendra Dev and Ravi tried to distinguish child labour and child work. “The authors make an interesting observation contrary to the popular perception most of the children who are not attending school are not doing much work either” and “the direction of the causation does not necessarily run from child labour to non-attendance. This can be the other way round in the sense that dropout children take up productive work of their own choice or through parental pressure as a default occupation”.

From the studies of “Piush Antony on Bihar and Nira Ramachandran/Anuo Karan on Jharkhand, it appears that poverty and food security are not the basic causes taking child labour on the supply side. It may be caused by a combination of factors”.

“The demand side pressure creates a market for cheap labour, possibly served by the children of the poverty stricken households. Poverty and food insecurity creates the space in which the pull force can operate”.

K P Kannan explains “the remarkable record of Kerala in reducing child deprivation in general. The public distribution system, supplementary nutrition for pre-school children and free noon-meal schemes for school children created a bottom line of food

security. The focus on food security and child nutrition has proved to be a factor in reducing child deprivation and child labour".

M P Joseph, "in his report on a successful ILO project warns for simplistic project solutions. Eliminating child labour through food security is a strategy but it is conditioned by collateral developments. The perception of insecurity is often more important than the actual insecurity itself. What the noon-meal scheme is really doing is just to break the fear of future food insecurity. So there should have efficient public distribution systems that can provide the appropriate foodgraines to target families at affordable food price. A set of other interventions, including community mobilisation, sensitisation, quality education etc should be coordinated with any provision of food security as part of strategy directing at eliminating child labour".

"Child labour has always existed in different forms since the dawn of Industrial Revolution in England. In India, right from the ancient times, children were trained in the household to carry out the profession of their father in future. Many children are forced carry on dangerous and hazardous work. This affects the physical and mental condition of children. It can not allow them to grow as normal children. The child labour recruitment keeps the adult wage rate low. So it perpetuates the vicious cycle of poverty which ultimately leads to augmentation of child labour. Poverty regarded as prime cause of child labour. It restricts the prospect of education and lowers children's efficiency and intellectual growth. Thus, child labour is economically unsound, psychologically disastrous, physically painful and morally dangerous to the society"[2]. The presence of child labour has often been attributed to socio-cultural factors. But child labour has also been an out come of strenuous social and economic evolutionary phases. Therefore," child labour is more a manifestation of the culture of poverty, rather than the reflection of a socio-cultural value system"[3]. Poverty coupled with increasing dependency ratio on account of population explosion since 1950s are pushing more children to the labour market in the poor countries.

[2]Sahai, Alka (1998): "Rights of the child and child labour: A sociological study of child labour in Aligarh Lock Industry", Unpublished Dissertation submitted to the Jawaharlal Nehru University in partial fulfillment of the requirements for the degree of Master of Philosophy, Centre for the study of Social Systems, School of Social Sciences, Jawaharlal Nehru University, New Delhi, Page no. 4.

[3]Ramachandran, Nira & Massun, Lionel (Edited) (2002): "Coming to the Grips with Rural Child Work", Institute for Human Development & United Nations World Food Programme, New Delhi, Page no 10.

It is very difficult to enhance per capita income level of development as population growth becomes very high in India. Even in plan period, since independence, per capita income has not increased substantially due to high population growth. So, child labour is a serious problem in every society as it is closely associated with social, economic and demographic problems.

The condition of girl labour is pathetic. The work of girl child labour is 'invisible' because it is mainly located in the domestic sphere. They are counted as 'unproductive work' as it defies monetary valuation. Gender bias in favour of boys decreases the school enrolment rate among girls which further aggravate the scenario. Girl labour is seen as a worker neither by the state, the employer, nor by the parents. Even Protective labour legislation does not cover street girls and domestic servants[4]. "In case of girls, there is an urban bias in education. Urban girls are more likely than their rural counterpart to attend school"[5]. "It reflects a more liberal attitude towards girls' schooling in the urban areas. On the other hand, rural bias is indicated for boys' schooling. In case of boys, the increased earning opportunities from wage labour in the urban areas means that the urban boy child is more likely to work and less likely to attend school than his rural counterpart"[6]. Primary education has a positive and significant impact on the school enrolment and it is much larger in case of girls than boys. State can play in improving primary schooling in India. But the "trickle down" effect of a state's economic prosperity on child schooling is extremely small[7].

1.3 SIGNIFICANCE:-

"A review of child labour eradication efforts in the country reveals that a two-pronged approach comprising anti-poverty strategy and universalisation of education underlies both government and international efforts. An essential part of both these strategies is food-based interventions. The utilization of food-based interventions

[4]Jaiswal, Prachi (1995): "Child Labour in India: A Sociological Analysis", Unpublished Dissertation submitted to the Jawaharlal Nehru University in partial fulfilment of the requirements for the Degree of Master of Philosophy, Centre for the study of Social Systems, Jawaharlal Nehru University, New Delhi, Page no 2.
[5]Ray, Ranjan (2000): "Poverty, Household size and Child Welfare in India", Economic and Political Weekly, September 23, Page no. 3518 to 3519.
[6]*Ibid*
[7]*Ibid*

implicitly acknowledges the significant role that food security plays in the prevention of child labour". While food is the most basic of all needs and knows no boundaries, the role of food insecurity in the incidence of child labour or the importance of food assistance in its eradication have not been extensively researched or formally stated.

"The majority of food insecure households is those below poverty line and consequently is not able to send their children to school. Thus, there is a need for a holistic development initiative which will help to break the vicious circle of poverty, food insecurity and child work".

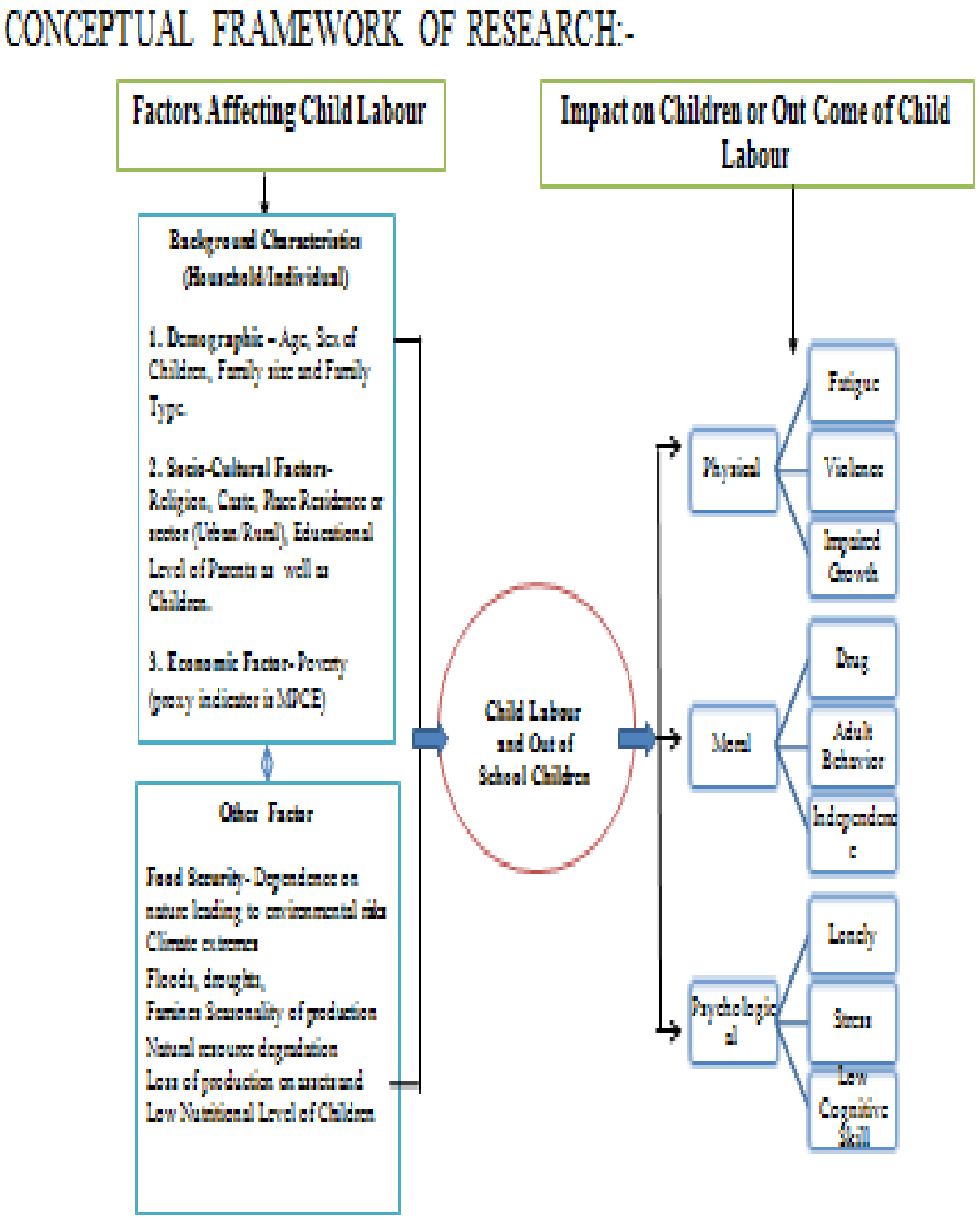
1.4 GLIMPSE OF THEORY AND RESEARCH:-

Table 1.1

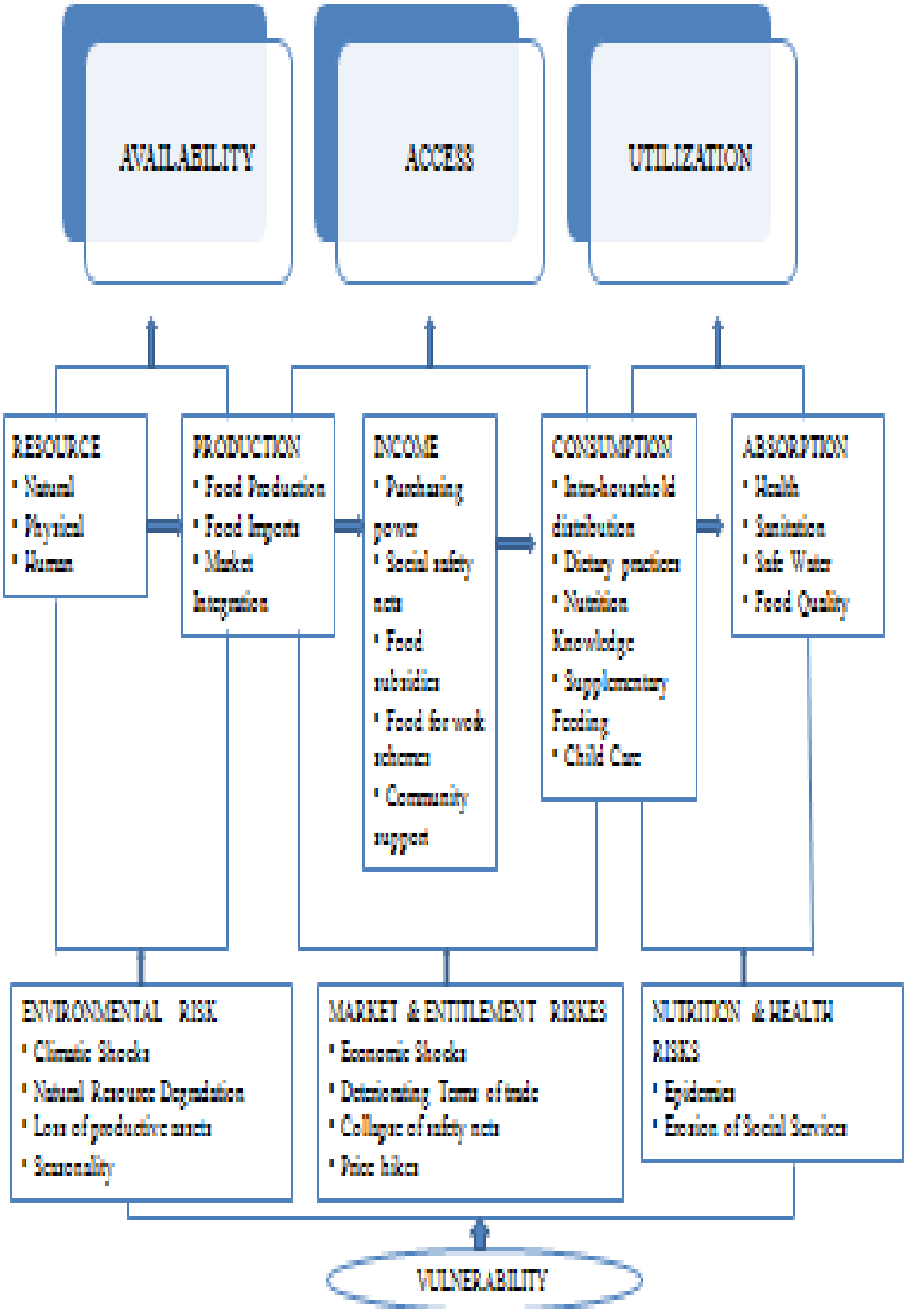
Literature on Food Security and Child Labour

Theme	Scholars	Issue
Social	Singh, Bhagwan P.D. and Mohanty, S. (1993), Chaudhri, D.P. (1997) Laskar, B. Islam. (2000), Burra Neera. (1989), Mishra,	Child Labour and Education.
Demographic	G.P. and Pande, P.N. (1996), Aggarwal, S.C.(2004), Venkatanarayana, M (2004)	Child Labour, Family size (Fertility).
Economic	Kanbargi, Ramesh and Kulkarni, P.M. (1986), Dinesh, B.M. (1988), Galli R. (2001)	Child Labour, Income,
	Bhatty, Kiran(1996), Manju Gupta (1999),Basu K., Tzannatos Z. (2003),	Poverty and Food Security Speciafically
	Satyarthi,K and Zutshi, B (2006), Lieten,G,K (2006), Zutshi, Bupinder, Joshi. Sudhanshu	on Food Security & Child Labour S.
	and Vajpeyi. Alok (2006), Ramachandran, Nira; Massun, Lionel (2012), Ray, Ranjan	Mahendra Dev & C. Ravi (2002), Nira
Cultural	(2000), Ahmed, Iftikhar (1999),Nathan, Dev;	Ramachandran & Anup
Political	George, Ann (2012)	Kr. Karan (2002), Nira Ramachandran and Lionel Massun (2002), D P Chaudhuri and E J Wilson (2002)
	Antony, p. and Gayatri, v. (2002) , Weiner, Myron (1990), Burra , Neera (2001)	
	Weiner, Myron (1996)	Child Labour and Society.
		Child Labour and Politics of Government.

1.5 CONCEPTUAL FRAMEWORK:-



LINKAGE BETWEEN DIMENSIONS OF FOOD SECURITY:-



1.6 LINKS BETWEEN FOOD SECURITY AND CHILD LABOUR:-

The study entitled "Food Security and Child Work in Rural India authored by G. Daly, D. Bhattacharya and B.P. Dash is an exercise of different genre. They have meticulously used secondary data to bring home their argument that food insecurity and child labour move together in same direction. They find that food insecurity and child deprivation in general co-exist at least in India's rural landscape. They have used food insecurity map of rural India prepared by World Food Programme. One could easily locate food deficient areas of varying degrees in the map. They prepared a similar map in the line with food insecurity map and child labour infested regions of India. The letter map was super imposed on the former to see whether child labour zone overlap with food insecure zone.

Interestingly and expectedly it did. The locations in India having food crisis are those sheltering highest magnitude of child labour regionally speaking. They recommend massive food based intervention by the government to eliminate child labour. Another excellent paper in the series is food security and child work in south India, "Determinants and policies by S Mahendra Dev and C. Ravi (2002)". The two scholars have noted substantial beneficial effect on food based intervention on school going children in the states of Kerala and Tamilndu. The mid day meal programme of the two states has succeeded in bringing down malnutrition among children. Food intervention has thus reduced school dropout, has increased retention and thereby has succeeded in bringing down the incidence of child labour. The authors have noted astonishingly that the same did not happen in the neighbouring states of Karnataka and Andhra Pradesh. Another paper exclusively focused on Bihar, infamous for massive failure on many human development indicators such as adult illiteracy, child labour and child malnutrition. The paper entitled "Child Work in Bihar, A Leeway Household Food Insecurity" authored by Piush Anthony is an excellent piece for reading. The paper brings to light efficacy of food based intervention programs in combating child labour.

BIMARU region of the Hindi heartland of India posing a formidable challenge to India's growing prospects of being great power in not so distant future. The region is marked by extreme economic inequality, social exclusion, gender bias, poverty, caste

oppression, unequal power relation and many other social ills that do not go well with India's image as a largest democracy of the world. Child Labour is substantially high in Bihar. The author points out that the higher incidence of child labour has linkage with lack of access to schooling. Food insecurity is another observe of household poverty that perpetuates child labour. The empirical survey of 12 villages across the state brings to light the pervasiveness of kind wage instead of cash wage in agriculture work. Children are provided with one square meal a day in exchange for a day's work. Mid day meal scheme as the author points out is yet to be popular in Bihar as a measure for encouraging school participation. Child labour has also a caste dimension. The lower social group endure recurrent food insecurity as a result of their income volatility.

Child labour is also at higher scale where food insecurity overcast this social existence. An excellent paper named "Hunger illiteracy and Child Deprivation in a Tribal Region: A study of Jharkhand" by Nira Ramachandran and Anup Kr Karan (2002) needs attention. The uniqueness of this study lies in its focus on a tribal state. Seasonality of food insecurity has come to the fore in their study. Adequacy of food prevails in the post harvest period that last for few months.Monsoon is the period of severe food crisis when agricultural wage work is hard to find. Most households face two or four months of food storage with at least two months of near starvation level. The food insecure households fall back on children for income support. The study finds that child labour is high among food insecure households. Underlying the explanatory factors discussed in the foregoing research studies undertaken by prominent scholars in this field, there is a common thread of food insecurity that envelops all of them. The impact of school feeding programme on school enrolment as well as on retention is discernible. Food insecurity not only causes child work but it also prevents school participation.

1.7 OBJECTIVES:-

- Examine child labour incidence across gender and age group in study area.
- Estimate the food insecure households in study area.
- To study the linkages between food insecurity and child labour with special reference to socio-economic and cultural indicators.

- To find out nutritional standard and health associated with the working children.

1.8 RESEARCH QUESTION:-

- Is there any gender variation prevailing in the incidence of child labour in study area?
- Whether food insecurity among households has increased the incidence of child labour?
- Whether food insecurity, education level of parents and child, status of occupation, availability of land and social as well as religious back ground has an impact on the incidence of child labour?
- How working condition and nutritional status affects the health of working children?

1.9 STUDY AREA:-

In India number of child labour differs widely. A number of NGOs as well as most of the western sources state that India has more than 100 million child labourers[8]. According to government figure on the other hand, number has decreased over the past 20 years, from approximately 21 million in around 1980 to 9 million in the year 2000[9]. The difference between the estimates of 100 million and that of 9 million has everything to do with problem of definition. Children who do not go to school are not necessarily child labourers[10]. They are called "nowhere" children. It is possible to solve the problem of nowhere children without even touching the core problem of child labour[11]. So there is a need for independent research in this matter. It may help to clarify on where intervention is most urgently needed.

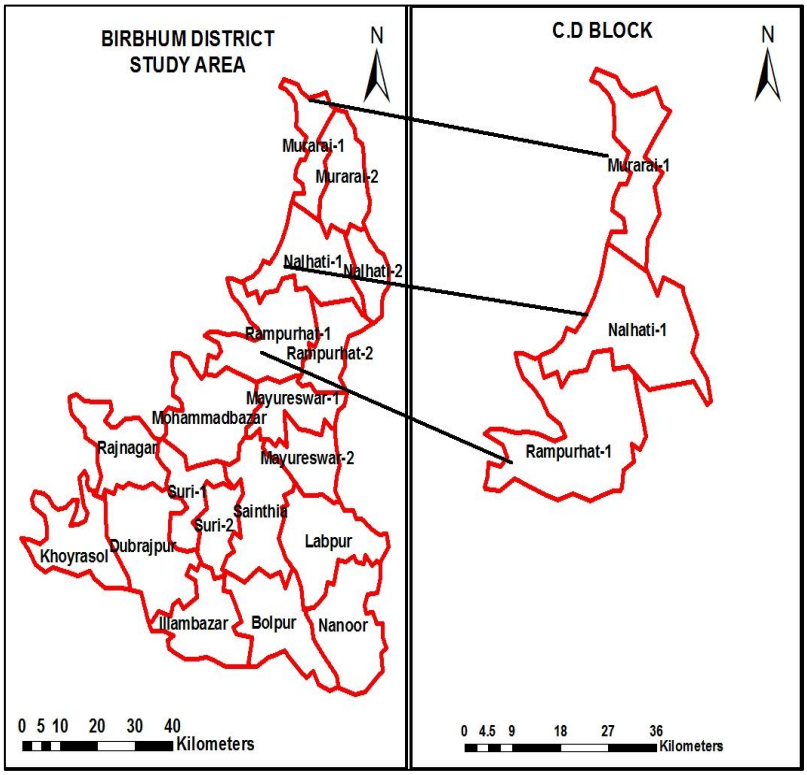
Reason of choosing West Bengal is that child work participation rate in this state is higher than the national average in 2009-10. On the other hand in Birbhum district of West Bengal percentage of child labour is higher than the state average from 1991 to

[8]Lieten, G K (2006): "Child Labour: What Happened to the Worst Forms?" Economic and Political Weekly, January 14, Page No. 107.
[9]*Ibid*
[10]*Ibid*
[11]*Ibid*

2001. So in this paper Birbhum district is taken as a case study. C.D Blocks and corresponding villages are identified by computing composite index using different indicators.

Map 1.1

Study Area Three C.D. Blocks of Birbhum District



1.10 SELECTION OF STUDY AREA:-

1. ***State Selection***: - On the basis of the Work Participation Rate of Children higher than national average.

2. ***District Selection***: - On the basis of Ranking among district in context of percentage of Child Labour higher than state average and Backwardness.

3. ***C.D. Block Selection***:- On the basis of Composite Index (indicators are given below)

    1. Child Sex Ratio (0-6 Years),
    2. Percentage Literate person to total Population,
    3. Percentage of Literate Female to Total Female Population,
    4. Work Participation Rate.

4. ***Village Selection***: - On the basis of Composite Index (indicators are given below)

1. Child Sex Ratio (0-6 Years),
2. Percentage of non SC/ST Population,
3. Percentage Literate person to total Population,
4. Percentage of Literate Female to Total Female Population,
5. Work Participation Rate.

5. ***Household Selection***: - Households having at least one child within 5 to 14 years of age group.

1.11 SAMPLE DESIGN AND SAMPLE SIZE:-

Reason of choosing West Bengal is that child work participation rate in this state is higher than the national average in 2009-10. On the other hand in Birbhum district of West Bengal percentage of child labour is higher than the state average from 1991 to 2001. So in this paper Birbhum district is taken as a case study.

Now the C.D Blocks and corresponding villages are identified by computing composite index using different indicators which have already been given in composite index calculation tables. Three C.D. Blocks are identified on the basis of composite index value (one from bottom, one from middle and one from top). Similarly three villages (only those villages which are having households more than 400, are taken in my study as small villages lacking variation) from those three C.D.Blocks are also identified through the same process.

Table 1.2

Household Sample Size of Study Area

Birbhum District			
C.D Block Murarai-I			
Sl No.	**Village Name**	**Total No. of Households**	**Sample Households**
1	Chatra	403	45
2	Duria	531	53
3	Palsa	814	55
C.D Block Nalhati-I			

Sl No.	**Village Name**	**Total No. of Households**	**Sample Households**
1	Harisara	453	50
2	Bautia	444	45
3	Tejhati	783	50
C.D Block Rampurhat-I			
Sl No.	**Village Name**	**Total No. of Households**	**Sample Households**
1	Shrikrishnapur Pakhuria	502	45
2	Ramrampur	642	54
3	Chandpur	527	50
Total Households		5099	447

1.12 SAMPLE CHARACTERISTICS:-

Table 1.3

Number of Person in Households Surveyed in Study Area

C.D. Blocks	Frequency	Percent	Valid Percent	Cumulative Percent
RAMPURHAT	686	30.3	30.3	30.3
NALHATI	654	28.9	28.9	59.2
MURARAI	923	40.8	40.8	100.0
Total	2263	100.0	100.0	

Table 1.4

Number of Person in Households Surveyed in Study Area across Villages

	Frequency	Percent	Valid Percent	Cumulative Percent
Shrikrishnapur Pakhuria	225	9.9	9.9	9.9
Ramrampur	230	10.2	10.2	20.1
Chandpur	231	10.2	10.2	30.3
Tejhati	235	10.4	10.4	40.7
Harisara	219	9.7	9.7	50.4

	Bautia	200	8.8	8.8	59.2
	Duria	301	13.3	13.3	72.5
	Chatra	263	11.6	11.6	84.1
	Palsa	359	15.9	15.9	100.0
	Total	2263	100.0	100.0	

Table 1.5
Number of Households surveyed across Religion in Study Area

			RELIGION			
BLOCK			HINDU	MUSLIM	OTHERS	Total
RAMPURHAT	VILLAGE	Shrikrishnapur Pakhuria	6	39	0	45
		Ramrampur	54	0	0	54
		Chandpur	0	0	50	50
	Total		60	39	50	149
NALHATI	VILLAGE	Tejhati	50	0		50
		Harisara	39	11		50
		Bautia	45	0		45
	Total		134	11		145
MURARAI	VILLAGE	Duria	0	53		53
		Chatra	30	15		45
		Palsa	32	23		55
	Total		62	91		153

Table 1.6
Number of Households surveyed across Social Groups in Study Area

			SOCIAL GROUP				
BLOCK			GENERAL	SC	ST	OBC	Total
RAMPURHAT	VILLAGE	Shrikrishnapur Pakhuria	0	6	0	39	45
		Ramrampur	2	50	0	2	54
		Chandpur	0	0	50	0	50

	Total		2	56	50	41	149
NALHATI	VILLAGE	Tejhati	16	30		4	50
		Harisara	17	24		9	50
		Bautia	10	33		2	45
	Total		43	87		15	145
MURARAI	VILLAGE	Duria	17	0		36	53
		Chatra	12	20		13	45
		Palsa	11	10		34	55
	Total		40	30		83	153

Table 1.7

Number of Child Labour Surveyed across Gender Group in Study Area

			SEX OF CHILD		
BLOCK			MALE	FEMALE	Total
RAMPURHAT	VILLAGE	Shrikrishnapur Pakhuria	7	6	13
		Ramrampur	12	10	22
		Chandpur	15	15	30
	Total		34	31	65
NALHATI	VILLAGE	Tejhati	15	12	27
		Harisara	15	12	27
		Bautia	12	5	17
	Total		42	29	71
MURARAI	VILLAGE	Duria	18	5	23
		Chatra	18	1	19
		Palsa	13	2	15
	Total		49	8	57

Table 1.8

Number of Child Labour Surveyed across Age Group in Study Area

	CHILD AGE		
BLOCK	5 to 9 years	10 to 15 years	Total

RAMPURHAT	VILLAGE	Shrikrishnapur Pakhuria	7	6	13
		Ramrampur	4	18	22
		Chandpur	10	20	30
	Total		21	44	65
NALHATI	VILLAGE	Tejhati	9	18	27
		Harisara	7	20	27
		Bautia	1	16	17
	Total		17	54	71
MURARAI	VILLAGE	Duria	3	20	23
		Chatra	4	15	19
		Palsa	0	15	15
	Total		7	50	57

1.13 DATA BASE:-

- Secondary Data Sources:-

1. Census of India (1991, 2001 & 2011).
2. NSS 66th Round (2009-10) & 68th Round (2011-12).
3. District Human Development Report (2008).
4. District Gazetteer of West Bengal.

- Primary Data Sources:-

The sampling data collected personally through primary survey and first- hand information will be gathered on various attributes from different households. The respondents would be head of the households as well as child labourers.

For studying child labour empirically, the necessary data – both secondary and primary survey data - was collected for the research and analytical purposes. The secondary data were collected from relevant sources such as Census of India – 1991, 2001 & 2011, Statistical Abstracts of India and West Bengal- 2011, NSS 66th round 2009-10, Reports of Sample Registration Systems and District Gazetteers of West Bengal.

1.14 METHODOLOGY:-

The sampling data was collected personally through primary survey and first-hand information was gathered on various attributes from different households having at least one child within the age group of 5 to 14 years of age group. The respondents were head of the households as well as child labourers. Sample size is proportionate to the population size across religion and social group. The mix sample of landless as well as land owner is taken into consideration. Stratified Purposive sampling method has been followed while collecting primary data. Only those villages are chosen having at least 400 households.

Table 1.9
Objectives, Research Question and Methodology

SL no	Objective	Research Question	Data Source	Methodology
1	Examine child labour incidence across gender and age group with special reference to Birbhum district in West Bengal.	Is there any gender variation prevailing in the incidence of child labour in West Bengal?	Secondary Data source for state level analysis & Primary Survey for district level analysis	Work Participation rate of boy and girl labour and measuring gender disparity with the help of "Modified Sophar's Disparity Index".
2	Estimate the food insecure households in study area of West Bengal.	Whether food insecurity among households has increased the incidence of child labour?	Primary Survey	"Norm" Level of Calorie Intake as per NSSO Report No. 513(61/1.0/6) "Nutritional Intake in India"(2004-05) & Composite Index taking

				different indicators across Food Availability, Food Access and Food Utilisation.
3	To study the linkages between food insecurity and child labour with special reference to socio-economic and cultural indicators	How food insecurity impacts different forms of child labour? Whether educational level, status of occupation, availability of land and social as well as religious back ground has an impact on prevalence of child labour ?	Primary Survey	Analyzing different form of child labour and their occupation type across different level of Food Insecurity. Analyzing child labour across different social, religious group, economy activity status and educational level of children as well as parents and Regression Analysis.
5	Analyse the health related problems associated with child labour.	How working condition of child labour affects the health of children and future capacity to work?	Primary Survey	Body Mass Index (BMI) , Hours spend in different activities and Working Condition.

Table 1.10
Most Vulnerable Households

Criteria	Most vulnerable household
income	Very poor households
Head of household	Households headed by children, youth or women
Size of household/relative number of adults	Large household with few adults
Migration	Households where family members need to migrate for labour
Land ownership	Landless households
Level of education	Households with a very low levels and access of education

Table 1.11
Core food security and livelihoods indicators

	Indicator	Description
Livelihoods	1. Institutional and policy environment	Socio-political context, past crises and conflict, ethnicity, social organisation
	2. Vulnerability context	Climate, geography, physical infrastructure, hazards
	3. Livelihood assests	Access to capitals, land tenure, fishery and pasture
Availability	1. Food stocks	Sufficient and diversity of food products in markets and hh
	2. Food imports	Origin, diversity and availability of food in markets
	3. Market prices	Prices of staple food and basic commodities, variation and trends
Access	1. Food sources	Diversity and seasonality of food sources; chages
	2. Income sources	Diversity and seasonality of income sources; labour migration; debt; changes
	3. Coping strategies	Range of food consumption strategies

		(adaptive, coping, crisis, survival)
Utilization	1. Dietary diversity	Diversity of foods consumed over a 24 hour period; meal frequency
	2. Malnutrition prevalence	GAM/SAM rates, MUAC screenings, aggravating factors and context elements
	3. Water access & availability	Sources, quality and cost of water
	4. Public health	Incidence and severity of outbreaks; changes in access to health care
	5. Care practices	Prevalence of and changes in breastfeeding; food-sharing practices

Table 1.12
Indicators for Food Security Atlas of West Bengal

Name of Variable	Sources	Reference Year
(a) Availability		
1. Proportion of net irrigated area to net sown area	State Statistical Handbook 2014, Bureau of Applied Economics and Statistics Department of Statistics and Programme Implementation, Government of West Bengal	2014
2. Anuual Per Capita Production of Food Grain (kg)	State Statistical Handbook 2014, Bureau of Applied Economics and Statistics Department of Statistics and Programme Implementation, Government of West	2014

	Bengal	
3. Yield of Food Grain (tonnes per hectare)	State Statistical Handbook 2014, Bureau of Applied Economics and Statistics Department of Statistics and Programme Implementation, Government of West Bengal	2014
4. Percentage of villages having access to pukka road	Census Of India	2011
5. Percentage of Non-Forest cover area to total geographical area	State Statistical Handbook 2014, Bureau of Applied Economics and Statistics Department of Statistics and Programme Implementation, Government of West Bengal	2014
(b)Accessibility		
1. Cultivator and Agricultural Labour ratio	Census of India	2011
2. Percentage of non SC, ST population to total population	Census of India	2011
3. Work participation rate of main worker	Census of India	2011
4. Effective Male Literacy Rate (excluding 0 to 6	Census of India	2011

years population)		
5. Effective Female Literacy Rate (excluding 0 to 6 years population)	Census of India	2011
6. Monthly Per Capita Expenditure	NSS 68TH ROUND (computed)	2011-12
7. Rural Casual wage rate	NSS 68th ROUND (computed)	2011-12
(c)Utilization or Absorption		
1. Percentage of Household having access to safe drinking water	Census of India	2011
2. Percentage of villages having access to PHC (within <5 km distance)	Census of India	2011

1.15 SCHEME OF CHAPTERISATION:-

This doctoral thesis is an attempt to see the food security and child labour condition in Birbhum district of West Bengal. Three C.D. Blocks have been chosen on the basis of composite index for which that which indicators have been selected already discussed earlier. The sampling data was collected personally through primary survey and first- hand information. The whole thesis is thus divided into different chapters and organised study. Start from the introduction, review of literature, secondary data analysis, the limitation of secondary, primary data analysis, interpretation, inferences, findings, outcomes till conclusion and bibliography. The following chapters are part of my research analysis.

Chapter 1: Introduction

The Chapter 1 deals with introduction of my research, context and significance of research, brief theories and literature I went through, objectives of my research, research question to be answered, study area, how study area has been selected, data sources, sample design and size and methodology used to analyse my secondary and primary data.

Chapter 2: Review of Literature

The Chapter 2 deals with the detail review of literature, research articles, report, research papers, journals, books etc. Review of literature is very important to find the concepts, theories and research associated to my research area. This chapter also helps me to construct my conceptual framework.

Chapter 3: Macro Level analysis of Child Labour

This chapter deals with inferences, findings and results I get from secondary data analysis. Macro level analysis is very helpful to further proceed with my research work and to understand the limitation of secondary data on particular research interest.

Chapter 4: Macro Level analysis of Food Security and link with Child Labour

This chapter deals with inferences, findings and results I get from secondary data analysis on food security on global scenario as well as state level. Macro level analysis is very helpful to further proceed with my research work and to understand the limitation of secondary data on particular research interest.

Chapter 5: Micro Level analysis Of Child Labour in study area

This chapter deals with data I collected through household survey on the basis of systematic purposive data collection method as the target group is 5 to 14 years age group population. Primary data analysis helps to partially fulfil the limitation arised from secondary data analysis.

Chapter 6: Micro Level analysis of Food Security in study area

This chapter deals with data I collected through household survey on the basis of systematic purposive sample method. Data collected on different indicators which are

derived from different my conceptual research framework. Primary data analysis helps to see the group level scenario of food security condition.

Chapter 7: Linkages between Food Security and Child Labour in study area

This chapter deals with the linkages between food security and child labour on the basis of primary data collected through household survey. This chapter helps to understand the extent and degree of relationship between these two indicators.

Chapter 8: Conclusion

This chapter deals with the conclusion and findings derived all through my research and data analysis briefly. Policy implications and other issues no covered has also been discussed.

CHAPTER 2

LITERATURE REVIEW

2.1 STATEMENT OF PROBLEM:-

After going through detail reading of literatures, articles, books and reports on child labour, it is found that in developing country like India, child labour has been a major issue due to large number of out school children and significant proportion of population living below poverty line. Poor household can not provide basic education to their children. Some times even though they got enrolled, they have to drop out. Lack of quality education also leads the entry of children into labour market. They are highly underpaid as they are doing those works which lack legal provision and largely unskilled type.

So the increasing demand for child labour held the adult wage rate at low level and vicious cycle of poverty sets in. Wage rate child labour remains low at the time of their adulthood due to lack of skill.

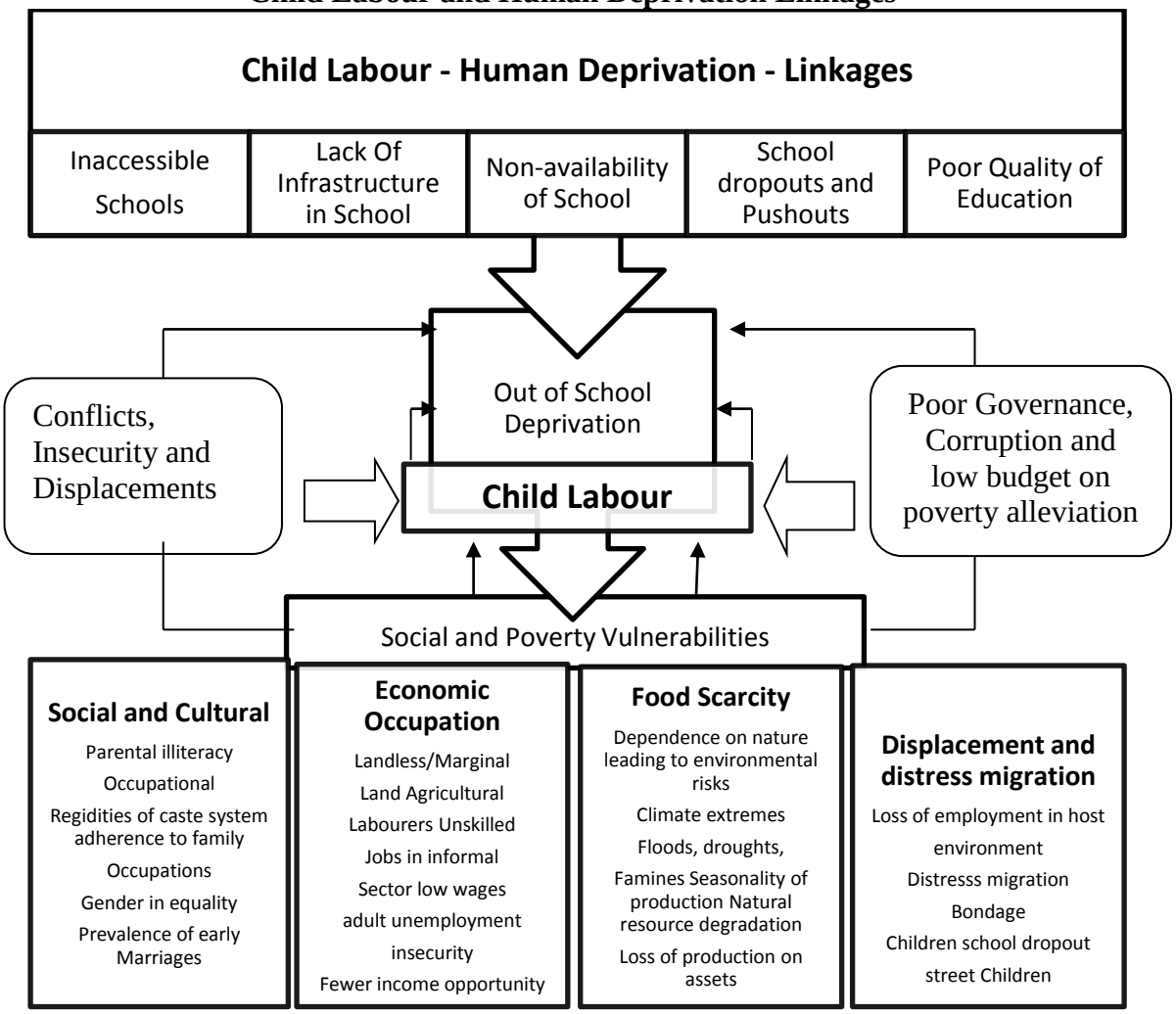
The present research is an attempt to study the issues related to the Child Labour. The research aims to study the magnitude and the determinants of Child Labour in India. Though Child Labour is practiced throughout the world, it has serious problems with respect to the overall development of children. So Child Labour is not accepted in society. Child Labour is forced to do work at expense of school and a minimum wage is allotted to them which is very exploitative. So practice of Child Labour in our society is very oppressive and it needs an overall critical analysis which may lead in the direction of possible solution.

2.2 LITERATURE REVIEW:-

"To use Amartya Sen's felicitous phrase, the capabilities of girl children will be restricted by the denial of education. It will be substantially restricted by the fact that illiterate girls will become illiterate women if freedom is the goal of development. Bring women out of the limiting boundaries of the household into the wider world of social and political relation would be one way to empower women. Distance of schools from villages is the common excuse for parents to not allow girls getting enrolled in schools. Parents also fear of sexual abuse if girls have to leave their village

to go to another village for schooling. High amount of dowry is one of the reasons for parents' reluctance in educating their daughters".

Figure 2.1
Child Labour and Human Deprivation Linkages



Source: - Review of Child Labour, Education and Poverty Agenda, India Country Report, 2006 By Bupinder Zutshi, Sudhanshu Joshi and Alok Vajpeyi.

"When we examine the context of girl's education, custom and tradition play a major role in deciding whether girls are sent to school or are relegated to work within the four walls of home. Poverty is not just about lack of income and resources, but it is also about who within the household has access over the resources. It is about who takes decisions about how these resources are to be used. "Tradition and custom does not allow women and girls equality and justice. Change will never take place if state itself falls into trap of cultural relativism. In this context, Amartya Sen's theory of 'cooperative conflict' within the family and the need for gender equity becomes

relevant. Poverty can not be used as an argument to justify the persistence of child labour".

"One can look at the child labour conditions in two ways: either comparing it with the conditions in Europe or comparing it with the objectives and ethical standards which the Indian state has been adopting[12]. India has a painful records regarding the latter terms especially in comparison with countries like Sri Lanka, Vietnam and China. It would be very helpful to start seeing child labour within the historical context, including the context of globalisation. It would bring all horror, dreadfulness and atrocities into open".

"Many assumptions have crept into the "child labour" discussion. The simple reasoning involves on one hand an exaggeration of the problems and on the other hand the isolation of the child labour problem from macroeconomics".

Childhood in a country like India is characterised by two fundamental problems:

- The actual labour that children are compelled to do, and
- The exclusion from the education system.

"Many have argued that the as long as children are out of schooling system, they are potential child labour. Many of the protagonists have argued that the solution is a combination of anti-poverty strategies, particularly food-based interventions, and universal education.

Ramachandran in her introduction goes halfway in identifying child labour as child labourers and also any work done by children which allow parents to spend more time on productive work, including all those children who remain outside the portals of the school. The concept of child labour has been used in three different ways. Ramachandran makes a valid point where arguing that the focus should not be on the narrow category of around 11 million child labourers but on the approximately 80 million other out of school children as well".

[12] Ramachandran, Nira; Massun, Lionel (Editors): "Coming to Grips with Rural Child Work: A Food Security Approach", Institute for Human Development, New Delhi, 2012.

"Food security is premised to be a crucial variable in explaining the derailed childhood of both actual child labourers and the deprived out of school children. Indira Hirway used empirical data which have been collected with a one day recall method in a stratified sample of more than 18000 households, to provide useful information about the relationship between child labour and the other activities in which children are involved. On the basis of material, one could suggest that definitely not all the nowhere children are child labourers".

"There is a relationship between poverty and child labour. The relationship is obvious, but what is the exact correlation, and what are the causal aspects at play is very important to answer. Most of the cases, blame is thrown up on the parents. A remarkable difference between the children of the poorest families and the less deprived families is not so much that the former are working more, but that their school dropout rates are much higher".

Mahendra Dev and Ravi[13] "tried to distinguish child labour and child work". The authors make an interesting observation contrary to the popular perception "most of the children who are not attending school are not doing much work either" and "the direction of the causation does not necessarily run from child labour to non-attendance. This can be the other way round in the sense that dropout children take up productive work of their own choice or through parental pressure as a default occupation".

"From the studies of Piush Antony on Bihar and Nira Ramachandran/Anuo Karan on Jharkhand, it appears that poverty and food security are not the basic causes taking child labour on the supply side. It may be caused by a combination of factors.

The demand side pressure creates a market for cheap labour, possibly served by the children of the poverty stricken households. Poverty and food insecurity creates the space in which the pull force can operate".

[13] *Ibid*

"Boys are more likely than girls to work and to be enrolled in schooling in both rural and urban areas[14]. Children in the female headed households record higher than average labour participation rates in urban sectors. Rural children from the backward classes experience less schooling than other children. Children from 'poor' households are twice as likely as those from 'non-poor' household to be involved in some form of economic activity. Poverty causes a sharp drop in child's school attendance and educational attainment". Poverty and sharp gender divide in favour of boy's education are the two factors putting girl child in poor household at a risk of missing out from schooling.

Child work was considered as part of socialisation process in our society in earlier time. But with time attitudes towards children and nature of work they were doing has changed. All those works are found to be unsuitable to children's growth and development. School is emerged as the best place for children and education is thought to reinforce human capital and human development. "Here came the notion that no child should work and all children must be in school". Education is must for every child. But in case of work it is not clear what kind of work children are not allowed to do. Here arises the controversy over the concept of child labour and child work. The former is rejected as it is detrimental to children's overall development and negatively affect their education and the latter is accepted as a process of socialisation.

"Identifying all out of school children as child labourers is not convincing for several reasons.

Firstly, suggesting all out of school children as child labourers, it sounds as if work and schooling are mutually exclusive activities for children. It implies that only out of school children are working & school going children are not working at all. It is evident in both developing & developed countries contexts that children are working while attending school. It is also observed that children have to work as to pay for their schooling expenditure in some instances [Grooteart and Patrinos 1999]".

[14] Ray, Ranjan (2000): "Poverty, Household Size and Child Welfare in India", Economic and Political Weekly, September 23.

Secondly, among the out of school children, a significant number are unhealthy or disabled. So therefore one can not say that all out of school children are child labourers.
Thirdly, parents' perception differs for their children to enter school. It is doubtful in such cases that if they engage the same children in any work.

Fourthly, the time use survey and PROBE (Public Report of Basic Education) included a broader definition for work. It did not find that all out of school children are working [Hirway, I (2002): "Employment in 1990s: How good are NSS data? "Economic & Political weekly, Review of Labour, May 25-31, Vol 37, No 21].

"All those out of school children can be categorised as educationally deprived children rather than child labourers. Keeping the child in school reduces the working hours of the children. It could be said that keeping children in school & monitoring their absence from work. [Weiner, Myron (1994): Child and state in India, OUP, New Delhi]".
In order to eliminate the employment of child labour from the production network, it is necessary to identify the locations where child labour is employed. The locations either registered factories of the corporate sector, unregistered workshops or what is called informal sector and agricultural fields or worker's homes. The elimination and monitoring of child labour is fairly simple in the factories of corporate sector. But the problems arise in case of unregistered workshops, household enterprises, or home based work.

Within the above mentioned types of production areas, we have to deal with two types of child labour situations. The first is that of child labour employed in direct contravention of the law- when child labour are employed on the factory shop floor, in restaurants or workshops. The second is where they work along with other family members in the informal sector, in their own home, or in agricultural fields[15].

The legal position of child labour in each of these situations is different. Employment of children below the age of 14 in factories, restaurants or workshops is clearly illegal.

[15]Nathan, Dev; George, Ann (2012): "Corporate Governance and Child Labour, Economic & Political Weekly, Vol. XLVII, No. 50, December 15, Page No. 52.

However, India's laws do not prohibit children working in the home or along with the family members even if they are less than 14 years of age. Here is the ambiguity arises. Home-based work is meant to evade regulations. This is clearly a case of informality. No occupation, however hazardous, is prohibited at the household level as mentioned in Clause 3 of the Child Labour Prohibition and Regulation Act of 1986. It enables manufacturer to shift the place of employment of child labour away from the factory to the household sector. However, International buyers do not accept the employment of child labour in any location. They do not even accept the Indian definition of child labour as being only those below the age of 14. The difference between India's legal and international contact has severe consequences like India's labour bureaucracy that administers child labour laws can not take legal actions to secure the implementation of international contract requirements that go beyond India's law. Most of the manufacturing companies in the corporate sector try to reduce the length of their manufacturing chain and carry out various tasks in house. It has often led to the mechanisation (as in the match industry in Sivakasi and the sports goods industry in Sialkot).

While the ban on employing children below the age of 15 has been implemented, there has been an increase in the number of working adolescents. Conditions of inadequate earning of adults resulting extreme poverty are the importance in supply of child labour. So withdrawal of demand from the corporate side would not alone end child labour. If the supply of child labour continues, the informal sector can continue to provide them employment.

Once we go beyond the issue of eliminating child labour, there are two related points to consider: - (1) the support that have to be undertaken, and (2) the appropriate organisation that would take up the required action. There are two components to deal with the consequences of eliminating child labour. One is to provide schooling and second component is rehabilitation activities to provide income support for the child and the family.

The case studies of Tirupur and Sivakasi brought out one of the key factors that help to reduce child labour is the substantial increase in incomes of adult workers. Studies of Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS)

show that the employment provided under this scheme also reduced the supply of child labour. Pressure created by media reports of the evils of child labour stands out as the most important factor in bringing about changes in the attitude of government department to take initiatives against the employment of child labour.

Ending child labour requires the development and policy action to eliminate the supply of child labour requires both an increase in income for adult workers and compulsory schooling for their children. Conditional cash transfers and social policy builds around it speed up the process of ending child labour.

Current Indian legislation has been influenced by Gandhian views as well as by the 19th century experiences of industrialisation in Britain[16]. Vast majority of India's working children are working live in the villages. But current laws do not touch the vast majority of these 'invisible' working children. Child labour issue needs to be dealt with more comprehensive manner. A comprehensive investigation is also needed to measure the impact of changing economic structure on children's work.

Compulsory education may "push" children into schools, but "without simultaneous improvements in school quality and changes in the economic structure, children and their families may not be able to resist the "pull" of factors that bring children out of school". Compulsory schooling is not the panacea for child labour. Gandhian views of socially productive work for children were not seriously implemented in school curricula.

"There are two schools of thought regarding child labour related issue[17]. First school of thought is what may be called the poverty school. The children who enter the labour market are compelled to do so because of the poverty of their families. These poor families can not afford to send their children to school because they need them for work at home or outside. Poverty school asks for the rights at the work place. These would include poverty alleviation programmes coupled with fair wages and working conditions". The second school of thought may be termed the education

[16]Banerji, Rukmini (1997): "Child Labour and Children's Schooling", Economic and Political Weekly, September 27, Page No. 2458.
[17]Roy, Dunu (1998): "Rights of Child Labour: Ethics, Production and Nation-State", Economic and Political Weekly, January 31, Page No. PE-25.

school. Poverty is not regarded as the determining factor for the families for not being able to send their children to schools. There is no evidence that the children contribute significantly to family earnings or family would be very much worse off if they were to send the child to school. So it is absolutely necessary to make primary education compulsory for all and to reform the education system to make it more enjoyable. One says that children do not go to school because of compulsion, the other says it is because of choice.

What happens to the children after they pass through the educational system that does not change the picture of poverty either? Every five children going through primary and middle schools, there are two (at the very least) young people on the market desperately looking for a job.

International convention on the Rights of the Children provides free and compulsory education for all. At the same time, the national education policy recently formulated by the government, emphasising the role of non-formal education. Rather than try to put all children into the schools, it will be more 'pragmatic' to establish learning institutions for the young ones after they have completed their chores. From 1948 to 1951 the Factories Act, the Plantation Act, and the Mines Act prohibited the employment of children in what is basically the organised sector.

The Child Labour (Prohibition and Regulation) Act of 1986 has less to do with prohibition and more with regulation. It restricts the recruitment of children in certain hazardous occupations but permits the children to work in home based production activity. Periodically there are announcements in the newspapers that a few bonded child labourers have been freed. It depicts that they clearly do not want to wok under those conditions any more. But does that mean that they do not want to work? Or that they are keen to go to school? These have been instrumental in freeing the child workers from bondage. World is explored through the eyes of the concerned observer, not through that of the child.

The exploitation of working children is intrinsic to the society. It is same state which protects the profits of the owners, as well as legislates against low wages. It is the same state which sets up a futile educational system. The issue of right can not be

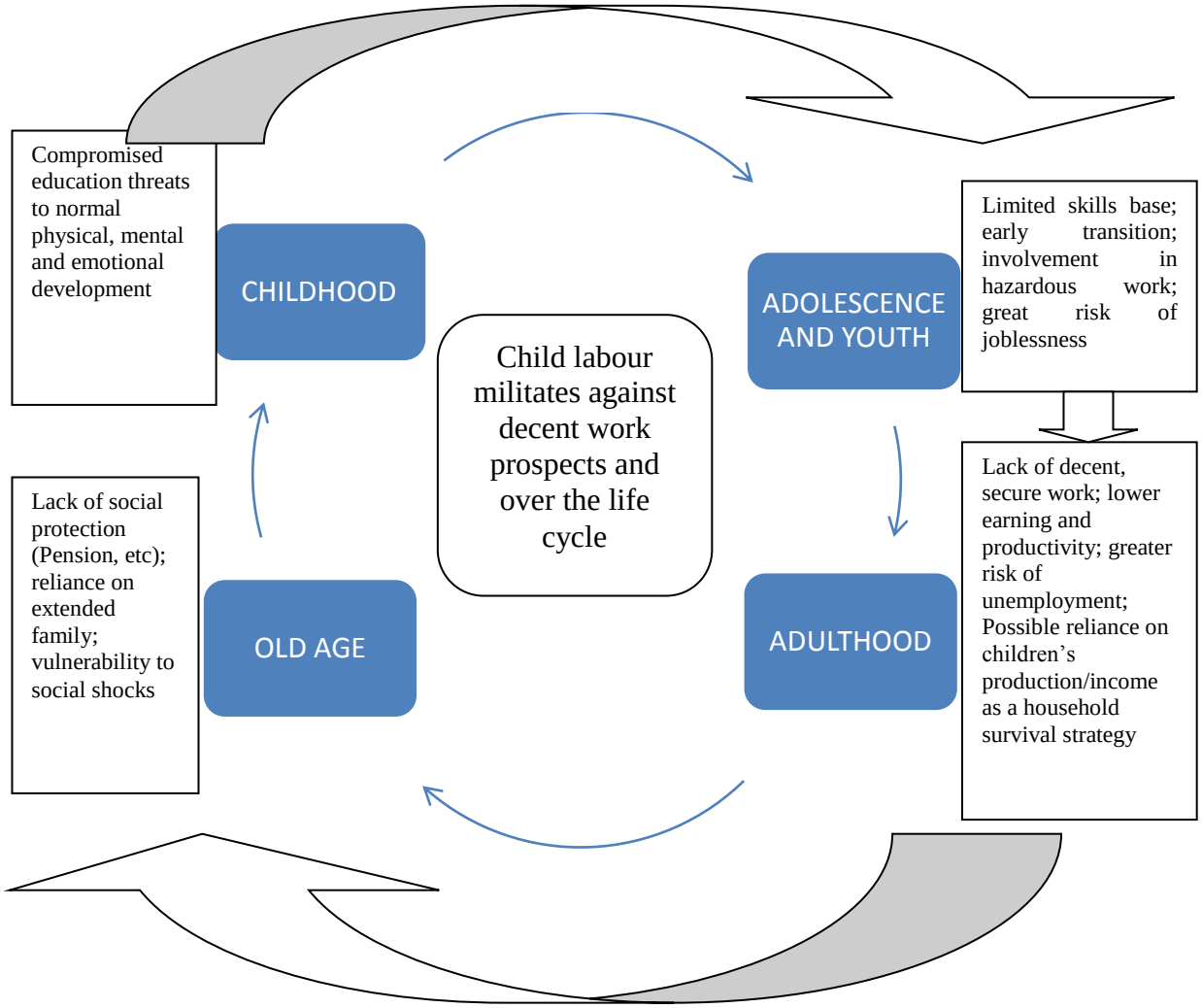
resolved as long as wrongs continue to be the basis for the production and reproduction of human life.

"Higher dependence on agriculture tends to generate child labour by providing the scope for work[18]. There are two basic questions arise to address the total abolition of child labour. Firstly, is the goal of total abolition of child labour a valid and attainable? And Secondly, is child labour abolition a long term objective?".

[18]Ahmed, Iftikhar (1999): "Getting Rid of Child Labour", Economic and Political Weekly, July 3, Page No. 1815.

Figure 2.2

Poverty and Child Labour Cycle



Migration takes place into a range of industrial and agro-industrial sectors such as brick manufacture, salt making, sugar cane harvesting, stone quarrying, construction, plantations and fishing. Children forced to migrate alone are by far the most vulnerable group affected by migration. This practise may reduce household expenses and possibly increase household income. Children might migrate independently because of their need to earn more money for their own upkeep and to have more autonomy.

Singh and Mohanty[19] showed that the lack of education is the main cause of child labour. Lack of education leads to high fertility ultimately results in to higher child labour. In the study of Laskar[20] it is found out that low social and economic condition compels children to enter into low wages, hazardous work environment which prove detrimental to their health and educational prospects. Burra[21] noticed that most of the children were working due to family pressure and their parents and governments are not careful about their education.

In the study of child labour in Mirzapur carpet industry, Mishra and Pande[22], found that most of the child are illiterate and among literate most of them have left the school at the primary due to lack of money. Pandey[23] in his study of child labour in Kanpur examines the extent and cause of problem and says that the social background is the main cause of problem. Phillips[24] says that several factors like poverty rejection or divorces, family tensions, death of parents, ill treatment by steps, selling children as bounded labours are the conditions that have brought these children on the street. In the empirical works of Nangia P. (1987)[25]

"poverty, obviously, is the main cause for the early entry of children in work force, but it is not the only one." She classified the causes of the child labour in the two distinctive classes,

(a) Direct determinants, and

(b) Indirect determinants.

In the first set of the determinants, from children's responses, Nangia came to know that 63 percent of the children considered the poverty as the main cause of the child

[19]Singh, Bhagwan P.D. and Mohanty, S. (1993): "Child Labour in India: Dimentions and Policy options", B.R. Publishing corporation, Delhi, p 67.

[20]Laskar, B. Islam. (2000): "Child labour in Aligarh Lock Industry", Economic & Political Weekly, Vol. 22, Feb 12, pp.233-241.

[21] Burra Neera. (1989): "Child labour and education: Issue Emerging From the Experience of some developing countries of Asia', UNESCO-UNICEF, Paris, pp.56-63.

[22]Mishra, G.P. and Pande, P.N. (1996): "Child labour in Carpet Industry", APH Publication Corporation, New Delhi.

[23]Pandey Rajendre.(1991): "Street children in India: A Situational Analysis", Chugh Publication, Allahabad.

[24] Phillips, W.S.K. (1994): "Street children in India", Rawat Publications, New Delhi, p.33

[25]Nangia, P. (1981): "Child work in India: A Preliminary Analysis", An Unpublished Dissertation submitted for The Degree of M.Phil. To Jawaharlal Nehru University, New Delhi.

labour while 15 percent of the children identified idleness as cause of child labour. 60% of the parents responded that poverty is the main reason for sending their children to the work. 20 percent parents considered that working by the children is the best use of the spare time of their children and 11 percent parents said that it is reason of the idleness. On the basis of employers' response, it is found out that 31 percent employers hired the children because of the need of the children in the specific activities. In the indirect determinants, father's education, mother's education, orphanage, drop out from the school and parent's earning are the main responsible factors.

Empirically it has been found that wherever the problem of unemployment is low and adult wage rate is high, the child work participation rate is less. For instances, in the study of Rosenzweig and Evanson, it is found that a significant negative relationship between the adult female wage rate and child work participation. The income is one of the most important determinant of child labour as research in many countries including India, Rosenzweig has consistently demonstrate a strong inverse relationship between income of household and child work participation[26].

"According to Zutshi[27] (2006) there are evidence which showed that with new opportunities globalisation has increased "inequality and economic' insecurity" for poor communities all over the world. Besides, globalisation revises the structure of economy by emphasising some sectors (mainly trade) and discourages other (agriculture) which has the earning source for most of the developing world. In addition, donor countries and agencies discourage the subsidy and government expenditure, and the governments of poor countries are ultimately unable to offer the public services on health, education and food subsidies for poor communities. In that way, globalisation widening the gap between rich and poor increased a strong link with school dropout rate of poor children, child labour and poverty. As a result, as to maintain additional living cost women and children are forced to labour market in low

[26]Rosenzweig, Mark and Evenson, Robert. 1977: "Fertility schooling and Economic Contribution of Children in rural India: An Econometric Analysis", Econometrica, Vol.45, No.5, p-1065-1079.
[27] Satyarthi,K and Zutshi, B (2006): Globalisation, Development and Child Rights, India: Shipra Publications.

paid jobs". "Lieten[28] (2006) agreed with Zutshi (2006) and claimed that globalisation is the name of more poverty, more devolution and more source of cheap labour for exported goods that would draw a picture of increased amount of child labour. Lieten (2006) also argued that in tha name of "free market" globalisation creates vulnerability for countries in Asia and Latin America".

"Zutshi, Joshi and Vajpeyi[29] deals with the magnitude of the child labour in India, its regional patterns and magnitude of out of school children in their study. According to the study there are varying estimates of working children magnitude in India due to differing concepts and methods of estimation".

"A large number of child labours live on streets and this makes them vulnerable to sexual and drug abuse[30]. Germany refused to attend an international conference of carpet manufacturer on the ground that Indian carpets were made by the children. In Mirzapur-Bhadoi carpet belt 40 percent of the carpet weavers are children below 14 years of age group. In the lock industry of Aligarh, child labourers are engaged in work for 12-15 hours in dim light and amidst highly poisonous chemicals which make them prone to asthma and various skin problems. Children do drilling and polishing in highly polluted environment for long hours which exposes them to basic facilities at the work place".

The world conference in Vienna in 1993 recognised the important role the government can play in improving the child labour related problems. Nations need to mobilise maximum resources to reduce child mortality rate and provide nutritious food to all children. But unfortunately no political party wanted to take the initiative to abolish child labour as children do not constitute vote bank. Non-government organisations can more effectively implement policies fro revival, protection and development of children. Child labour is common in developing countries. Poverty

[28] Lieten,G,K (2006): Child Labour: The Effects of Public Concern and Neo-liberal Policies in Satyarthi,K and Zutshi, B (eds): Globalisation, Development and Child Rights, India: Shipra Publications.

[29] Zutshi, Bupinder, Joshi. Sudhanshu and Vajpeyi. Alok (2006), Review of Child Labour, Education and Poverty Agenda, India Country Report, 2006.

[30] Pankaj (1995): "Plight of Child Labourers", Economic and Political Weekly, November 25, Page No. 2980.

and child exploitation go hand in hand in these countries. Schemes for poverty alleviation and rehabilitation of child labourers are urgently needed.

"Poverty is expected to be the prime factor for unrelenting supply of child labour[31]. But the historical evidence and experience within the country do not support poverty argument. To understand the problem of child labour, we need to discuss the missing points which are as following; firstly, the main problems related to child labour; secondly, understand the problems in the larger context of child right by reviewing state policies and thirdly, understand the ambiguities regarding children's work and education".

"One crucial distinction has to be made between child work and child labour. The former is more generic and latter categories tend to be more specific indicating labour market involvement of children which is detrimental to their development. The problems related to child labour drift between poverty argument and education argument". "The problem is compounded when low economic status combines with other forms of disadvantage such as caste, gender, ethnicity and livelihood security. Poverty may play a role in explaining of child labour by means of absence of demand or inability to pay for education. But it does not constitute an insurmountable barrier. State level analysis does not support the poverty argument as states with low incidence of child labours are not necessarily the richer states. It is a stark fact that child labour is socially reproduced whether it is due to poverty or lack of educational services".

"Child rights a western notion that as a 'right based approach' to development has been lately incorporated to the Indian development scenario. The ILO convention (182) on the Worst Form of Child Labour in 1999 is an attempt for such a culturally inclusive framework. In the context of India, the constitutional provisions of universal elementary education for age group of children below 14 years constitute the benchmark for distinguishing a child labour from an adult work. But different age cut-off has been followed in our democratic polity and formal schooling system".

[31] Antony, Piush and Gayathri V (2002): "Child Labour: A Perspective of Locale and Context", Economic and Political Weekly, December 28, Page No. 5186.

“There is an extended childhood with different kind of protection in the upper economic classes. Let’s say for example, financial protection is extended till the child finishes his/her chosen field of studies and get a job. On the contrary, the gap between child labour and the next life cycle is much shorter. Children belonging to lower economic classes tend to force into labour market as unskilled or skilled labour prior to their teenage. State is unwilling to implement abolition of child labour acknowledging that some children can have childhood without schooling. This indicates the social values and belief system that guides the hegemonic social structure which insists on social division of labour in India. It is not resource crunch or pressure from interest groups, but the belief system of bureaucracy that hampers any progressive concept of childhood. Non-formal education and vocational training are the various government programmes to reach out to those children who are out of school and at work. But both of these have been criticised for its inferior nature”.

“Those who are enrolled or attending the school are not considered for their involvement in activities. But which are otherwise counted as work for out of school children. This is basically due to the dichotomous framework of work/education in children’s live. Children form the “extra hands” of adults in the case of poor families irrespective to the fact that whether they are sent to school or not. The decision of a family regarding their children’s work is not a rational choice. It is more of a social choice. The social exclusion of a community makes education a choice of privileged communities. It is a social reality that education does not bring any opportunity for most of these communities which are yet to make a breakthrough from traditional occupation”.

The state needs to be persuaded to play a larger role. Those who are playing an active role in addressing the issues of child labour need to take up an additional role of policy advocacy more vigorously in the appropriate political and policy corridor, since children do not from a vote bank. State is reluctant to invest in compulsory education, but it is learnt that poor human development indicators are explained primarily on the basis of low literacy levels.

The growth of child labour worldwide is the result of globalisation[32]. "International Child Labour Elimination Act" offers concrete solution to eliminate child labour. It prohibits importation of products in US manufactured in the countries and industries that use child labour. Global Corporation could also be established to give scholarships or basic education projects of the poorest workers. Independent monitoring systems could be established to ensure that children are not being exploited in World Bank financed projects. To implement effective monitoring international organisations, ILO, UNICEF and World Bank must channel funding all the way to the grass roots level. But which is unfortunately not often the case.

The supporters of child labour are still resistant to change. There are several arguments in favour of child labour. The first one is that if children do not work, they will starve. Children can avoid starvation by working a few hours a day for survival.
The second argument is that if these children are prohibited from work, they will move to even more terrible condition such as the sex industry.

The third argument is a cultural one. Children have always worked in developing countries and westerners do not understand the traditional cultural aspect of these countries.
In India to evade the provisions of the factories act, the lock industry has been gradually transformed into a 'cottage industry' with less than 10 persons in each site. Without any child labour provisions, the world Bank is financing a project with IBRD loan of US for the construction of 800 km of major roads in Haryana state. But child labourers are being used in construction as a result of this project. Child labour experts have identified that the majority of working children are to be found among the displaced and migrant families at construction site, brick kiln and mines. Solution to end the growth of child labour has to be global and comprehensive to reach all levels of societies in which child labour is in use.

[32]Remington, Francoise (1996): "Child Labour: A Global Crisis without a Global Response", Economic and Political Weekly, December 28, Page No. 3354.

Widening gap between the rich OECD countries and the countries in the third world has exacerbated the problem of child labour[33]. A general assumption is that survival of the entire family could be at stake if children were not to work.

Child labour must be seen as a phenomenon of poverty and more of social attitude and sensibilities[34]. Being a low income country is not enough to condone the use of child labour. The relationship between children and work is largely depending on the stage of economic development and the system prevalent in a country. Change in the mode of production brings change in the structure of the labour market. Thus with the onset of industrialisation and prospect of wage labour children become progressively employed in industry as well as domestic and commercial establishment.

Child labour is believed have an economic basis which fits into demand-supply framework.

The demand largely comes in the form of wage employment. Child labour is found in commercial establishments, in agricultural sector or in domestic establishments where they are assisting their families. Children are mostly observed working in the small scale sector for two reasons. Firstly, there is no statutory protection for children in this sector. The Factory Act (1948) bans employment of children only in units using 10 persons or more with power or 20 persons or more without power. The other reason is that children are supposed to be better than adults at tedious and mechanical jobs which require manual dexterity and nimbleness rather than training and skills.

Poverty of the household is most commonly cited explanation given for the supply of children to the labour force. Children are basically seen as economic assets. Families of the working children are so poor that their very survival is threatened. Children thus work as family labour in household enterprises. Neither parents want to send their children to schools nor are the children are motivated to attend schools as quality of schools is so poor. Overall economic situation coupled with lack of educational facilities could actually justify the persistence of child labour.

[33] Lieten G K (2000): "Children, Work and Education-I: General Parameters", Economic and Political Weekly, June 10, Page No. 2037.

[34] Bhatty, Kiran(1996): "Child Labour: Breaking the Vicious Cycle", Economic and Political Weekly, February 17, Page No. 384.

Children and their families do not gain much financially from child labour. Financial contributions by children to household income are often small. But the families above the poverty send their children to work in order to maximise family earnings.

Advantages to the employers of using child labour are very limited as in long run it would cost hem heavily in terms of efficiency and quality. Quality is compromised by using less modern technology using child labour. In India there has been no corresponding improvement in the prevalence of child labour despite improvements in poverty levels as evident from income statistics.

"For combating child labour two things are needed. Firstly, compulsory primary education must be introduced with large scale improvements in education system. This would mean improving the quality of teachers, books, curricula and recreational facilities etc. This could be regarded as single most effective tool in keeping children away from child labour force. Most countries have successfully adopted the principle of compulsory education and achieved high literacy rates and higher education standards. Secondly, the non-government organisations can play a bigger role in not just improving literacy and non-formal education but also to assist in monitoring the units where child labour is used".

"In India parents are not forced to send their children in schools because it can not provide employment for all adults[35]. Children are economic asset to the poor. The income they bring in and the work they do may be small but parents close to subsistence need their help. There is an unspoken consensus among the India's political leaders that education should not be made compulsory since parents have all the right to use the labour if their children. Parents remain free to remove their children from school and enter them into the labour force. The Indian government spends less on primary education which benefited the middle class leaving the rural and urban poor educationally impoverished". India's middle classes gain from policies as Indian government has given a higher budgetary priority to the expansion of higher education than to mass elementary education. India spends a smaller proportion of its GNP on elementary education and a greater proportion on higher

[35] Weiner, Myron (1996): "Child Labour in India: Putting Compulsory Education on the Political Agenda", Economic and Political Weekly, November 9-16, Page No. 3008.

education. According to planners education is an investment in human resources essential to the economic growth but mean an expenditure of funds on the education of the middle classes who could be employed by the government in the public and private sector that are protected against international competition.

Government policies of supporting the small scale sector promote the employment of children in unregulated hazardous work. Government officials are frank in saying that child labour helps to sustain uneconomic small scale industries and keeps costs down so that the carpet, gem and brass ware industries can expand their export. That's why child labour is on the increase in export industries such as gems, brassware and carpets.

CHAPTER 3

MACRO LEVEL SCENARIO OF CHILD LABOUR

3.1 DEFINITION OF CHILD LABOUR:-

"Two of the major international organizations traditionally working on behalf of child labour issues, the ILO and UNICEF had utilized quite differential child labour concepts and categorizations until at least the early 1990s. Trade unions, consumer groups and the International Labour Organization (ILO) often used "child labour" instead of "working children", implying that children should be kept away from the labour force at least until they reach a minimum working age on the basis of the fact that these organizations historically tended to protect and secure adult labour markets (ILO, 1997). In other words, the ILO's primary concern was to protect adult employment and wages".

3.2 CRITICAL OVERVIEW OF CHILD LABOUR DEFINITION:-

Table:-3.1

"Age Limit of Child Labour according to International Conventions"

	"UN Convention of the rights of the child"	"ILO Convention No. 138 on minimum age of employment"			"ILO Convention No. 182 on the worst form of Child Labour"
	General definition	General minimum age	Light work	Hazardous work	General definition
Normal circumstances	18 years	15 years	13 years	18 years	18 years
Exceptions		14 years	12 years	16 years	

Source:- OECD; combating child labour, a review of policies,2003:17

"Scholars working on child labour do recognise the fact that many children who are, in fact, working do not report so. This is said to be for two reasons.

Firstly, a restrictive definition of work excludes many activities in which children are involved.

Secondly, parents under-report their children at work because of the low value attached to it. It is acknowledged in the literature that the existing definition of work in general is leading to underestimation of the workforce, especially female workers due to the exclusion of certain kinds of jobs"[36].

The study group report on 'Women and Child Labour' has led to an ongoing and inconclusive debate on the concept of child labour. One school of thought considers all out-of-school children as child labourers[37]. Andhra Pradesh has become the first in India to declare it so.

3.3 CONCEPT OF CHILD LABOUR AND CHILD WORK:-

"Conventional approach distinguishes between child labour and child work. While the latter is accepted as a process of socialisation, the former is rejected as it is detrimental to children's overall development and negatively affects their education [Fyfe 1989, George 1993, Lieten 2003]"[38]. "It is said that all the work that children do is not child labour. This implies that child work is more generic and child labour is restrictive. One of the reasons the study group on women and child labour employed for rejecting the existing definition of child labour is that it is restricted to paid employment and working for others[39]. Even the NSSO definition restricts the labourer as working for wages when it defines rural labour".

"However, in practice we consider all children who are involved in economic activity which includes paid and unpaid work, work within the household and outside, and self-employed, and refer to them as child labourers. Yet, as it is argued, it is an underestimate of working children"." It is because the definition of worker is in general restrictive in the sense that it excludes some activities especially unpaid

[36]Hirway, Indira. (1987). "Child labour in developing economics today: Basic issues", A paper presented in International seminar on Child labour", Dec. 4-7, Gandhi Labour Institute, Ahmedabad.
[37] Lieten, G K. (2006): "Child labour: What Happened to worst forms?". Economic and Political Weekly, January 14, 2006.
[38] Lieten, G K. (2006): "Child labour: What Happened to worst forms?". Economic and Political Weekly, January 14, 2006.
[39] *Ibid*

services like household chores and domestic duties[40]. When a broader definition of worker is considered, the workforce estimation in general and that of child workers in particular will shoot up. As the concept of work is more inclusive, more and more children will be included as child workers". However, saying that all out-of-school children are child labourers is not convincing for several reasons. Firstly, while suggesting that all out-of-school children are child labourers, it sounds as if work and schooling are mutually exclusive activities for children. That is, it implies that only out-of-school children are working and school-going children are not working at all.

3.4 GLOBAL SCENARIO OF CHILD LABOUR:-

Table:-3.2

"Global Trends in the number of Children in Employment in age group 5 to 17 years from 2004 to 2008"

Year	Population ('000)		Children in employment ('000)		Child Labour (Percentage)		Percentage point difference of activity rate
	2004*	2008	2004*	2008	2004*	2008	
World	1566300	1586288	322729	305699	20.6	19.3	-1.3
Boys	804000	819891	171150	175777	21.3	21.4	0.1
Girls	762300	766397	151579	129892	19.9	16.9	-3.0
5 to 14 years	1206500	1216854	196047	176452	16.2	14.5	-1.7
15 to 17 years	359800	369433	126682	129217	35.2	35.0	-0.2

Source:- Global Child Labour Developments: Measuring Trends from 2004 to 2008, Statistical Information and Monitoring Programme on Child Labour (SIMPOC), International Programme on the Elimination of Child Labour (IPEC), ILO report
*2004 estimates have been retrospectively adjusted

[40]Hirway, Indira. (1987). "Child labour in developing economics today: Basic issues", A paper presented in International seminar on Child labour", Dec. 4-7, Gandhi Labour Institute, Ahmedabad.

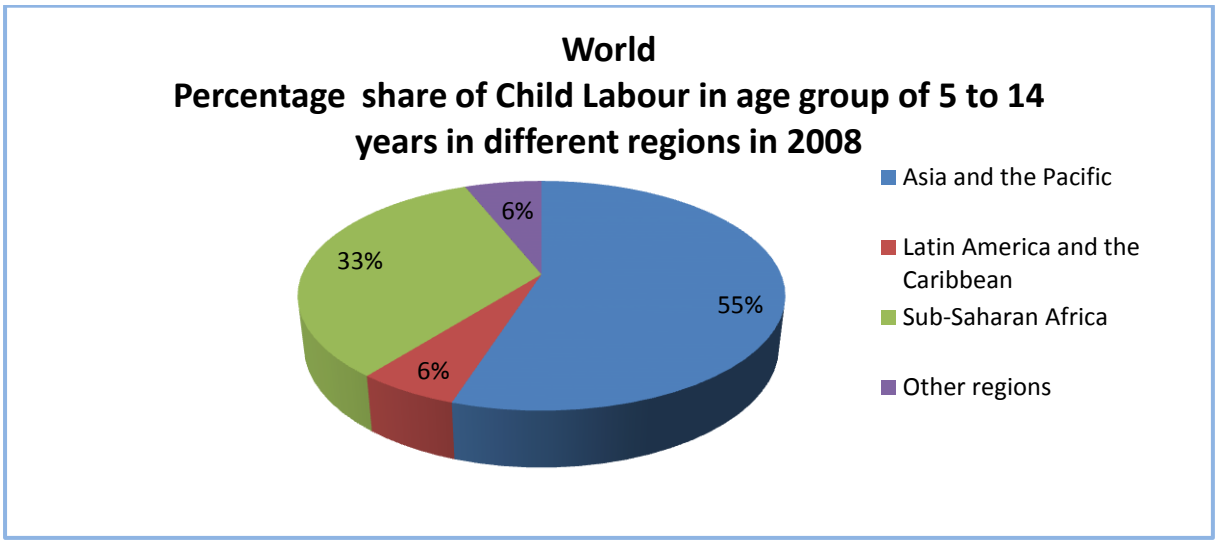
Table:-3.3

Global Trends in the number of Children in Employment in age group 5 to 14 years from 2004 to 2008

Year	Population ('0000)		Children in employment ('000)		Child Labour (Percentage)		Percentage point difference of activity rate
	2004*	2008	2004*	2008	2004*	2008	
World	1206500	1216854	196047	176452	16.2	14.5	-1.7
Asia and the Pacific	65000	651815	122300	96397	18.8	14.8	-4.0
Latin America and the Caribbean	111000	110566	11047	10002	10.0	9.0	-1.0
Sub-Saharan Africa	186800	205319	49300	58212	26.4	28.4	2.0
Other regions	258800	249154	12400	10700	5.2	4.3	-0.9

Source:- "Global Child Labour Developments: Measuring Trends from 2004 to 2008, Statistical Information and Monitoring Programme on Child Labour (SIMPOC), International Programme on the Elimination of Child Labour (IPEC), ILO report"
"*2004 estimates have been retrospectively adjusted"

Figure:-3.1



Source:- "Global Child Labour Developments: Measuring Trends from 2004 to 2008, Statistical Information and Monitoring Programme on Child Labour (SIMPOC), International Programme on the Elimination of Child Labour (IPEC), ILO report"

3.5 INDIAN SCENARIO OF CHILD LABOUR:-

"According to Census of India, 2001, there were 12.26 million working children in the age group of 5 to 14 years as compared to 11.3 million in 1991though the work participation rates of children in age group of 5 to 14 years has come down from 5.4 percent during 1991 to 5 percent during 2001".

"The recent round (61st) of the National Sample Survey (NSSO) estimates suggests that the child labour in the country is 8.9 million in 2004-05. NSSO data reveals that the work participation rates of children have been declining as shown by the census data. But in 2004-05 percentage of boy and girl labour is recorded almost 50% for each to total child labour in India in 2004-05".

Table 3.4

India

Child Labour in 1991 and 2001

Work Participation (Main and Marginal) Rate of Children in different age groups						
All India	**1991**			**2001**		
Age Group	**Boys**	**Girls**	**Total**	**Boys**	**Girls**	**Total**
5 to 9	0.9	0.9	0.9	1.5	1.4	1.4
10 to 14	10.9	9.9	10.4	8.8	8.5	8.7
5 to 14	5.7	5.1	5.4	5.1	4.9	5.0

Source: - *Census of India, 1991 & 2001.*

Table 3.5

India

Child Labour in 2011

Work Participation (Main and Marginal) Rate of Children in different age groups

Age group	**Total**	**Boy**	**Girl**
5-9	2.26	2.33	2.17
10-14	6.68	7.19	6.11
5 to 14	4.51	4.81	4.19

Source: - *Census of India, 2011.*

Table 3.6

India

"Percentage of Child Labour in age group of 5 to 14 years from 1993-94 to 2009-10"

Year	Boys	Girls	Total
1993-94(50th round)	6.35	6.12	6.24
1999-00(55th round)	4.14	4.01	4.08
2004-05(61st round)	3.33	3.32	3.33
2009-10 (66th round)	2.61	2.85	2.73

Source: *Derived From Respective Unit Level Records of NSS*

3.6 MAGNITUDE OF CHILD LABOUR IN INDIA:-

The phenomenon of child labour has wider implication for third world countries, which perpetuates vicious cycle of poverty and education exclusion. Despite all the effort, the problem of child labour continues to show its ugly head and its magnitude has not declined much since independence. The 1991 Census of India has estimated 11.20 million working children which increased to 12.6 million according to the census 2001, accounting for approximately 5 percent to the total children in age group of 5 to 14 years. "The increase in the magnitude of child labour during 1991-2001 was in spite of tremendous efforts by government, United Nations and other international agencies and NGOs for universalizing primary and elementary education and removing children from work through education and other rehabilitative interventions. The results depicts that only education interventions without integrating poverty alleviation programmes in the policy may not yield desired results of reducing child labour". The United Nation Children Fund (UNICEF, 2005) estimates there are more than 35 million working children in India, accounting for 14 percent of the children in the 5-14 age-group (UNICEF Report, 2005).

"Different agencies calculate the magnitude of child labour following different criteria, so the result also varies in their estimation. There are differences in opinions about these figures as large number of child workers are engaged in informal activities, which is normally not admitted by parents and employers. Hence, these

child labourers do not get enumerated in official survey. Since, the problem of vulnerability and inaccessibility to education is similar for all the out of school, they should be considered under the category of child labour in order to deal with the child labour in all forms"[41]."But the larger estimates on the other hand taking into account all the out of school children, over inflate the problem and there is need to be skeptical about it"[42].

Table:-3.7

Census Estimate of Magnitude of Child Labour in age group of 5 to 14 years in India from 1951 to 2001

Year	Child labour (in million)	Change in percentage
1951	13.4	
1961	14.5	8.21
1971	10.8	-25.52
1981	13.6	25.93
1991	11.3	-16.91
2001	12.6	11.50
2011	*11.7*	*-7.14*

Source:-Census of India, 1951, 1961,1971,1981,1991,2001 & 2011

There is a marginal decline in the magnitude of child labour in India since 1951 (table 2.2). The census figure of child labour does not show a uniform trend of growth and has been fluctuating between 13.4 million in 1951 and 12.7 million in 2001 and shows that despite all the efforts at governmental and nongovernmental level, the magnitude of child labour is still very high in terms of number as well as percentage, as compared to the global level. This has resulted not only because of real change in magnitude but also due to change in the definition of work and workers, coverage area and the quality of survey done by the survey agency.

[41] Burra, N. (1995): "Child labour in India", Oxford University Press, 1995.
[42] Lieten, G.K. (2002), "Child Labour in India: Disentangling Essence and Solutions", Economic and Political Weekly, 28 December, pp.5191-96

Table:-3.8

NSSO Estimate of Magnitude of Child Labour in age group of 5 to 14 years in India from 1993-94 to 2009-10

Year (Round)	Child Labour (in million)	Change in Percentage
1993-94 (50th Round)	13.86	
1999-00 (55th Round)	10.13	-26.91
2004-05 (61st Round)	9.07	-10.46
2009-10 (66th Round)	10.2	12.45

Source: Derived From Respective Unit Level Records of NSS

NSSO estimation of child labour is also showing decreasing trend in magnitude of child labour in India but sometimes it varies due to definitional change of child labour.

3.6.1 REGIONAL VARIATION IN MAGNITUDE OF CHILD LABOUR IN INDIA:-

There is large scale of regional variation in magnitude of child labour in India. Some states have been recorded increase in the incidence of child labour and somes are recorded negative change. There are various reasons behind all the regional variation and change in magnitude of child labour in India. In this study the spatial magnitude of working labour is shown with the help of census data 2001 and NSSO 66th round data on child labour. Census data of 1991 and 2001 is used to show the change in magnitude of child work participation rate in different states or regions of India. In this present section the regional variation in the incidence of child labour are given greater emphasise to get the state wise scenario of magnitude of child labour in India as different indicators of child labour determine the incidence of child labour differently in different states.

Table:-3.9

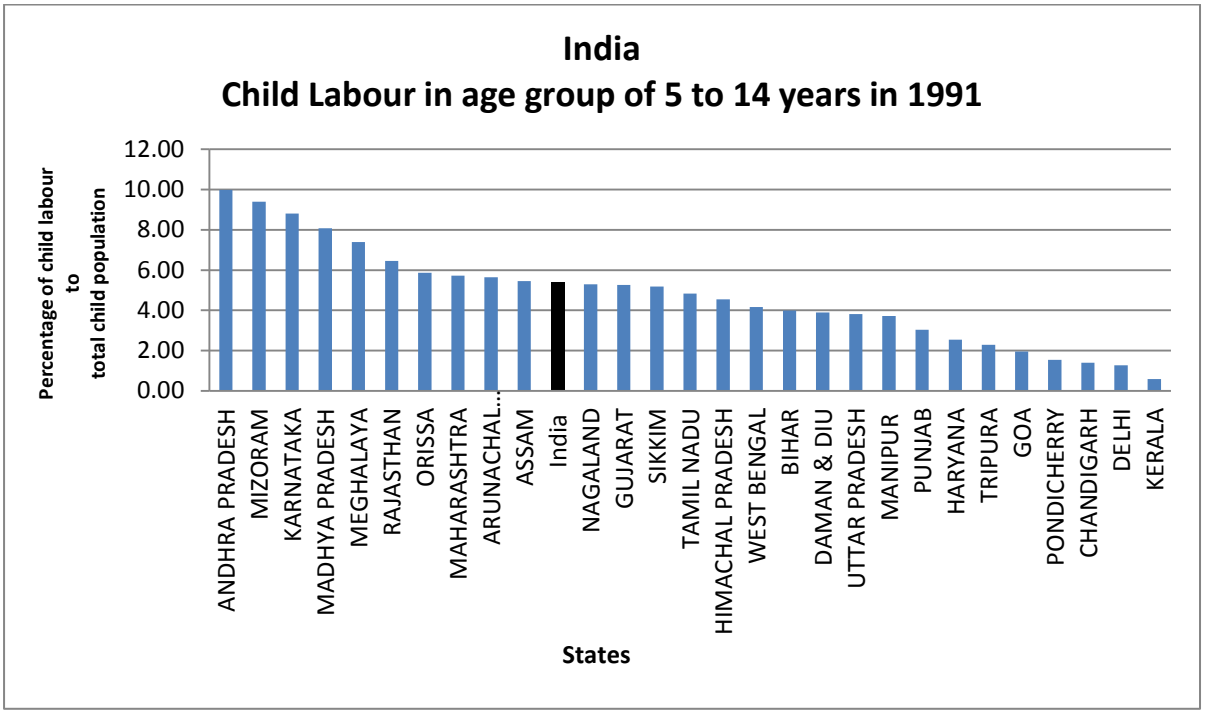
India

Percentage of Child Labour in age group of 5 to 14 years in 1991 and 2001

State	1991	2001
	Percentage of Child Labour	Percentage of Child Labour
ANDHRA PRADESH	9.98	7.70
ARUNACHAL PRADESH	5.65	6.06
ASSAM	5.46	5.07
BIHAR	3.99	4.68
CHANDIGARH	1.40	2.08
CHHATTISGARH	NA	6.96
DELHI	1.27	1.35
GOA	1.95	1.82
GUJARAT	5.26	4.28
HARYANA	2.55	4.78
HIMACHAL PRADESH	4.55	8.14
JAMMU & KASHMIR	NA	6.62
JHARKHAND	NA	5.47
KARNATAKA	8.81	6.91
KERALA	0.58	0.47
LAKSHADWEEP	0.27	0.19
MADHYA PRADESH	8.08	6.71
MAHARASHTRA	5.73	3.54
MANIPUR	3.72	5.75
MEGHALAYA	7.39	8.22
MIZORAM	9.40	12.34
NAGALAND	5.29	8.48
ORISSA	5.87	4.37
PONDICHERRY	1.54	1.07
PUNJAB	3.04	3.23
RAJASTHAN	6.46	8.25
SIKKIM	5.18	12.04
TAMIL NADU	4.83	3.61
TRIPURA	2.29	2.79
UTTAR PRADESH	3.81	4.08
UTTARANCHAL	NA	3.24
WEST BENGAL	4.16	4.50
DADRA & NAGAR HAVELI	13.22	8.84
DAMAN & DIU	3.89	2.58
Total	5.4	5

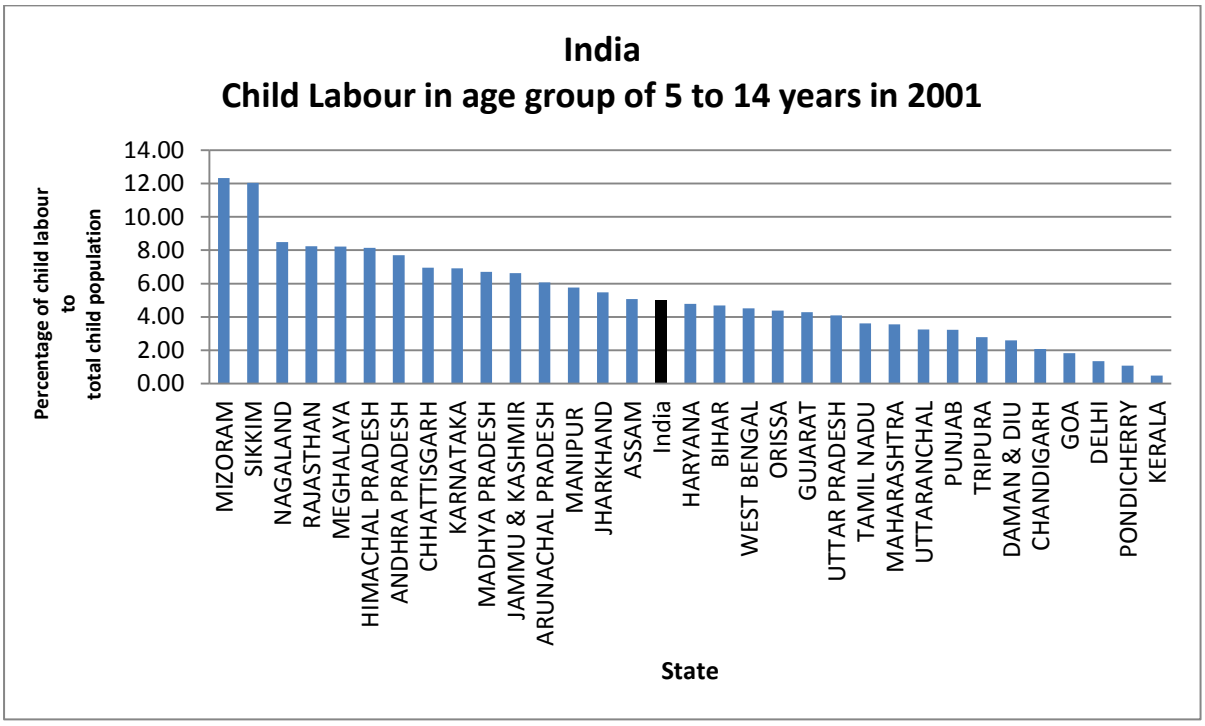
Source:-Census of India, 1991 & 2001

Figure:-3.2



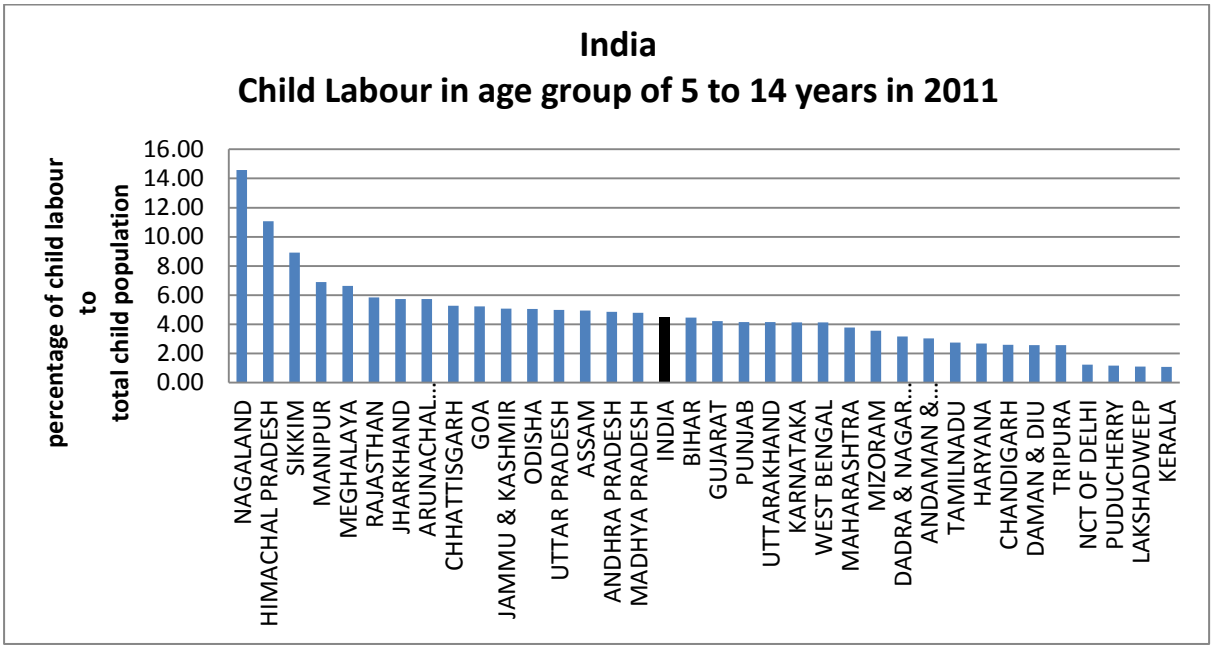
Source: - *Census of India, 1991*

Figure:-3.3



Source: - *Census of India, 2001*

Figure:-3.4

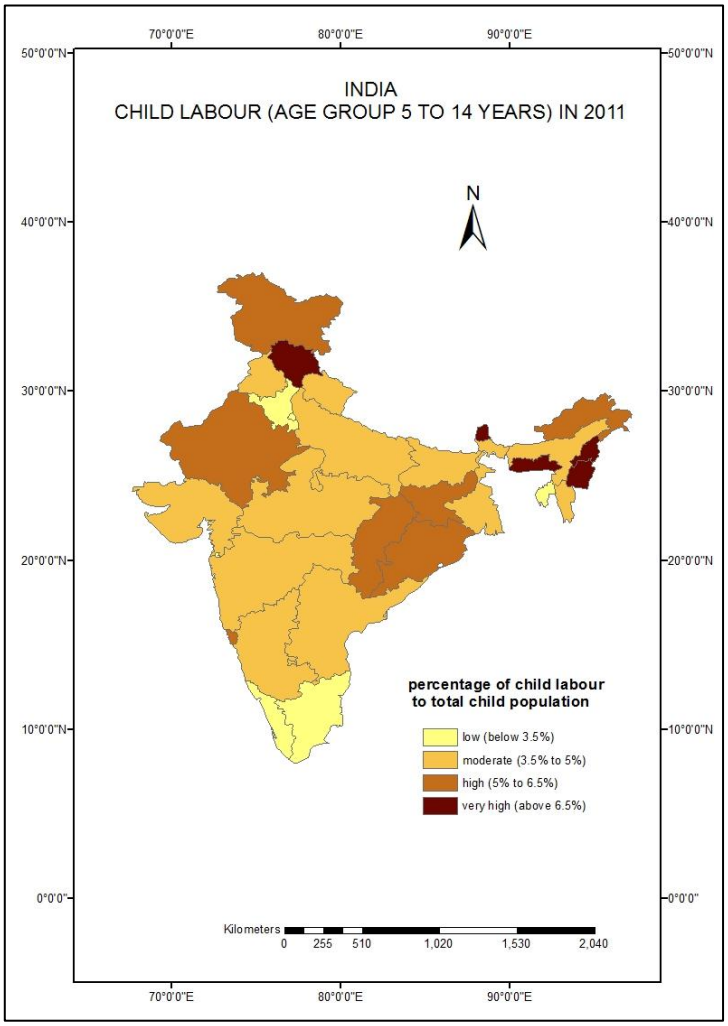


Source: - *Census of India, 2011*

Development in social sector in Kerala especially education is also reflected in its good performance in low rate of child work participation.

Kerala (0.47 %) has the lowest child labour among states in 2001 also. Mizoram (12.34%) recorded the highest in terms of percentage of child labour. Mizoram is followed by Sikkim (12.04%), Nagaland (8.48%), Rajasthan (8.25%), Meghalaya (8.22%), Himachal Pradesh (8.14%) and Andhra Pradesh (7.70%). In Mizoram and Himachal Pradesh high percentage of

Map 3.1



Source: - *Census of India, 2011*

child labour is recorded due to the higher proportion of marginal workers. They do not work as wage laborers outside the household rather contribute to the household activities and domestic work. It is not forceful and exploitative in nature. According to definition of Census of India, they are child labour, but they are wrongfully enumerated as child labour. In Andhra Pradesh, Sikkim and Karnataka, the problem is actually severe as the proportion of main child labour to total child labour is high. Children in agricultural practices are not considered to be as child labour in most of the states like Uttar Pradesh, Bihar etc. So eventually these states recorded low in percentage term of child labour to total child population. The state of Andhra Pradesh witnessed synergy of efforts between government, ILO, trade unions and NGOs during 1991 to 2001 in scaling up education initiatives for out of school children. So

in 2001 Andhra Pradesh recorded marginal decline in the magnitude of child labour during 1991 to 2001. Thus the policy makers and planners need to incorporated and integrate poverty alleviation and strengthening livelihood opportunities along with education initiatives to release children from work.

Table:-3.10

India

Estimate of Child Labour in age group of 5 to 14 years in 2009-10

State	Total child	Child Labour	Percentage of Child Labour
JAMMU & KASHMIR	1589952	65980	4.15
HIMACHAL PRADESH	1201214	25338	2.11
PUNJAB	4384089	375920	8.57
CHANDIGARH	173417	21320	12.29
UTTARANCHAL	1907817	98326	5.15
HARYANA	4587720	279540	6.09
DELHI	2130454	139611	6.55
RAJASTHAN	14720402	2057938	13.98
UTTAR PRADESH	44490889	5905997	13.27
BIHAR	22741150	4351639	19.14
SIKKIM	128995	3093	2.40
ARUNACHAL PRADESH	277477	26970	9.72
NAGALAND	239766	5836	2.43
MANIPUR	462140	8361	1.81
MIZORAM	166646	3415	2.05
TRIPURA	593811	18983	3.20
MEGHALAYA	579044	20035	3.46
ASSAM	5859055	591725	10.10
WEST BENGAL	14699860	1525369	10.38
JHARKHAND	6638534	730857	11.01
ORISSA	7548577	717540	9.51
CHATTISGARH	5232589	239589	4.58
MADHYA PRADESH	15467397	1651015	10.67
GUJARAT	10380172	1348812	12.99
DAMAN & DIU	33243	860	2.59
D & N HAVELI	65272	3595	5.51
MAHARASTRA	17600990	866526	4.92
ANDHRA PRADESH	14349332	914397	6.37
KARNATAKA	9109030	545909	5.99
GOA	190333	1861	0.98
LAKSHADWEEP	7382	6	0.08
KERALA	5102829	40869	0.80
TAMIL NADU	10776082	221223	2.05
PONDICHERRY	166141	1839	1.11

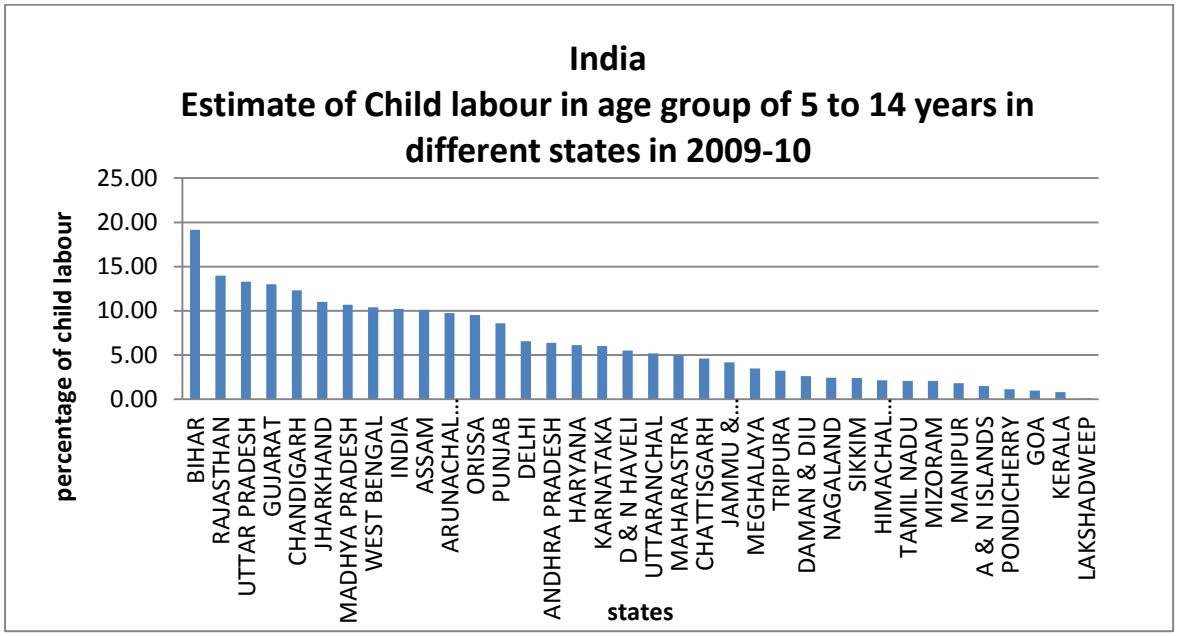
A & N ISLANDS	59283	873	1.47
Total	223661087	22811167	10.20

Source: - Extracted from NSSO 66th round on Employment and Unemployment in 2009-10. (All the out of school children including all those children who have UPAS status other than school going are considered as child labour in the age group of 5 to 14 years in this study)

Note: UPAS means Usual Principal Activity Status.

Percentage distribution of child labour in different states of India in 2009-10 is shown with the help of figure 1.4. Bihar is recorded to have highest percentage of child labour and Kerala is recorded to have lowest percentage of child labour among major states in India in 2009-10. Bihar (19.14%), Rajasthan (13.98%), Uttar Pradesh (13.27%), Gujarat (12.99%), Chandigarh (12.29), Jharkhand (11.01%), Madhya Pradesh (10.67%) and West Bengal (10.38%) is recorded to have higher percentage of child labour than the national average (10.20%) in India in 2009-10. Where as rest of the states are recorded to have lower percentage of child labour than the national average in India in 2009-10.

Figure:-3.5



Source: - Extracted from NSSO 66th round on Employment and Unemployment in 2009-10, (All the out of school children including all those children who have UPAS status other than school going are considered as child labour in the age group of 5 to 14 years in this study)

Note: UPAS means Usual Principal Activity Status.

Distribution of child labour in different states of India in 2009-10 is shown with the help of map 1.2. Work participation rate of children in the age group of 5 to 14 year varies across different states of India due to various reasons. Whole region is categorised into different class depending on the work participation rate of children.

Area of High Incidence of Child Labour:-

All the states which are recorded child work participation rate more than 10.1% come under this category. States like Bihar, Rajasthan, Uttar Pradesh, Gujarat, Jharkhand, Madhya Pradesh, West Bengal and Assam are recorded high incidence of child labour in India in 2009-10. Most of the parts lying on the fertile land of Gangetic plain and in most of those states children are working as agricultural labour. This picture is quite different from 2001 because of the definitional problem of child labour. Different states estimate different parameter and scales to measure the extent of child labour. States like Uttar Pradesh, Bihar etc did not consider children working in agriculture as child labourer. Though agriculture is not hazardous but children are working and most of the cases they are forced to leave school. On the other hand most of the north eastern states did not think to have high percentage of child labour as it is highly critical to define child labour.

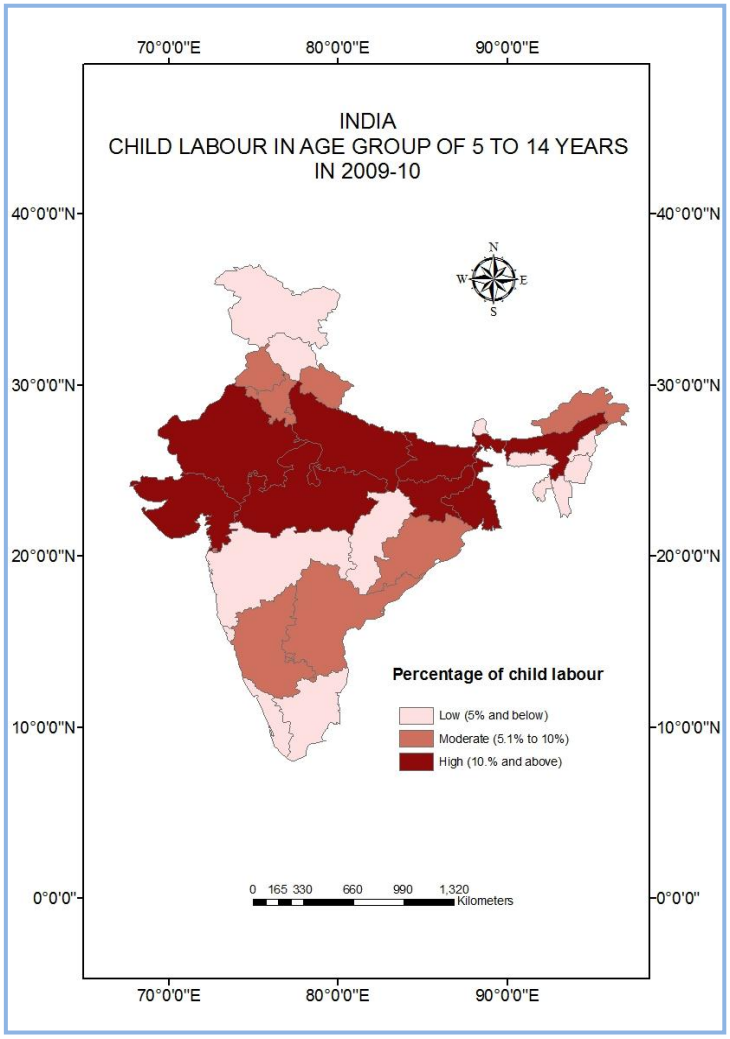
Area of Moderate Incidence of Child Labour:-

States which are recorded child work participation rate in between 5.1% to 10% come under this category. States like Punjab, Haryana, Uttaranchal, Andhra Pradesh, Karnataka, Orissa and Arunachal Pradesh are recorded to be seen in this category. States like Andhra Pradesh and Karnataka which are previously recorded high incidence of child labour, shows a great effort in reducing child labour. Government policies, initiatives from NGOs and over increase in school enrolment overall reduce the child work participation rate.

Area of Low Incidence of Child Labour:-

States which are recorded child work participation rate 5% or lower than that come under this category. Kerala, Tamilnadu, Maharashtra, Jammu & Kashmir, Himachal Pradesh and most of the north eastern states come under this category. Most of the states in this category are also better recognised in some socio-cultural indicators.

Map:-3.2



Source: - Extracted from NSSO 66th round on Employment and Unemployment in 2009-10, (All out of school children including all those children who have UPAS status other than school going are considered as childlabour in the age group of 5 to 14 years in this study)

Note: UPAS means Usual Principal Activity Status.

3.6.2 CHANGING MAGNITUDE OF CHILD LABOUR IN INDIA:-

The absolute number of child worker has gone up during the last inter-census period from 1991 to 2001 as given in table 1.2. But the percentage of total working children has only marginally declined from 5.4 percent in 1991 to 5 percent in 2001 as given in

table 1.4. Within the same period of time some of the states in India recorded positive percentage and some of the states recorded negative percentage change.

Table:-3.11

India

Change in Child Labour from 1991 to 2001

State	Child Labour in 2001	Child Labour in 1991	Percentage change in Child Labour
ANDHRA PRADESH	1363339	1661940	-17.97
ARUNACHAL PRADESH	18482	12395	49.11
ASSAM	351416	327598	7.27
BIHAR	1117500	942245	18.60
CHANDIGARH	3779	1870	102.09
CHHATTISGARH	364572	NA	NA
DADRA & NAGAR HAVELI	4274	4416	-3.22
DAMAN & DIU	729	941	-22.53
DELHI	41899	27351	53.19
GOA	4138	4656	-11.13
GUJARAT	485530	523585	-7.27
HARYANA	253491	109691	131.10
HIMACHAL PRADESH	107774	56438	90.96
JAMMU & KASHMIR	175630	NA	NA
JHARKHAND	407200	NA	NA
KARNATAKA	822615	976247	-15.74
KERALA	26156	34800	-24.84
LAKSHADWEEP	27	34	-20.59
MADHYA PRADESH	1065259	1352563	-21.24
MAHARASHTRA	764075	1068418	-28.49
MANIPUR	28836	16493	74.84
MEGHALAYA	53940	34633	55.75
MIZORAM	26265	16411	60.05
NAGALAND	45874	16476	178.43
ORISSA	377594	452394	-16.53
PONDICHERRY	1904	2680	-28.96
PUNJAB	177268	142868	24.08
RAJASTHAN	1262570	774199	63.08
SIKKIM	16457	5598	193.98
TAMIL NADU	418801	578889	-27.65
TRIPURA	21756	16478	32.03
UTTAR PRADESH	1927997	1410086	36.73
UTTARANCHAL	70183	NA	NA
WEST BENGAL	857087	711691	20.43

Source: - Census of India, 1991 & 2001

Table:-3.12

India

Decline and Increase in Child Labour from 1991 to 2001

Percentage decline in the incidence of Child Labour	Percentage increase in the incidence of Child Labour
Dadra & Nagar Haveli (-3.22)	Sikkim (193.98)
Gujarat (-7.27)	Nagaland (178.43)
Goa (-11.13)	Haryana (131.10)
Karnataka (-15.74)	Chandigarh (102.09)
Orissa (-16.53)	Himachal Pradesh (90.96)
Andhra Pradesh (-17.97)	Manipur (74.84)
Lakshadweep (-20.59)	Rajasthan (63.08)
Madhya Pradesh (-21.24)	Mizoram (60.05)
Daman & Diu (-22.53)	Meghalaya (55.75)
Kerala (-24.84)	Andaman & Nicobar Island (54.94)
Tamil nadu (-27.65)	Delhi (53.19)
Maharashtra (-28.49)	Arunachal Pradesh (49.11)
Pondicherry (-28.96)	Uttar Pradesh (36.73)
	Tripura (32.03)
	Punjab (24.08)
	West Bengal (20.43)
	Bihar (18.60)
	Assam (7.27)

Source: - *Census of India, 1991 & 2001*

Sikkim recorded highest positive percentage change of child labour from 1991 to 2001. Maharashtra recorded highest negative percentage change of child labour within the same time period among all the major states of India. It helps to understand the changing magnitude of child labour. But work participation rate of children largely associate with the total child population of a particular state. Definitional

change of child labour in different states has also been regarded as one of the most important factor in changing magnitude of child labour.

Table:-3.13

India

Change in Child Labour from 2001 to 2011

State	Child Labour in 2001	Child Labour in 2011	Percentage change of Child Labour
ANDHRA PRADESH	1363339	753004	-44.77
ARUNACHAL PRADESH	18482	20082	8.66
ASSAM	351416	347353	-1.16
BIHAR	1117500	1288321	15.29
CHANDIGARH	3779	4772	26.28
CHHATTISGARH	364572	297535	-18.39
DADRA & NAGAR HAVELI	4274	2260	-47.12
DAMAN & DIU	729	919	26.06
DELHI	41899	38939	-7.06
GOA	4138	11323	173.63
GUJARAT	485530	506496	4.32
HARYANA	253491	138983	-45.17
HIMACHAL PRADESH	107774	136052	26.24
JAMMU & KASHMIR	175630	143460	-18.32
JHARKHAND	407200	472831	16.12
KARNATAKA	822615	453215	-44.91
KERALA	26156	57602	120.22
LAKSHADWEEP	27	124	359.26
MADHYA PRADESH	1065259	806546	-24.29
MAHARASHTRA	764075	774815	1.41
MANIPUR	28836	41770	44.85
MEGHALAYA	53940	51205	-5.07
MIZORAM	26265	8366	-68.15
NAGALAND	45874	70268	53.18
ORISSA	377594	425546	12.70
PONDICHERRY	1904	2392	25.63
PUNJAB	177268	205847	16.12
RAJASTHAN	1262570	960549	-23.92
SIKKIM	16457	11020	-33.04
TAMIL NADU	418801	321002	-23.35
TRIPURA	21756	17808	-18.15
UTTAR PRADESH	1927997	2540375	31.76
UTTARANCHAL	70183	91436	30.28
WEST BENGAL	857087	716576	-16.39

Source: - Census of India, 2001 & 2011

Table:-3.14

India

Decline and Increase in Child Labour from 2001 to 2011

Percentage decline in the incidence of Child Labour	Percentage increase in the incidence of Child Labour
Mizoram (-68.15)	Lakshadweep (359.29)
Dadra & Nagar Haveli (-47.12)	Goa (173.63)
Haryana (-45.17)	Kerala (120.22)
Karnataka (-44.91)	Nagaland (53.18)
Andhra Pradesh (-44.77)	Manipur (44.85)
Sikkim (-33.04)	Uttar Pradesh (31.76)
Madhya Pradesh (-24.29)	Uttaranchal (30.28)
Rajasthan (-23.92)	Chandigarh (26.28)
Tamil nadu (-23.35)	Daman & Diu (26.06)
Chhattisgarh (-18.39)	Pondicherry (25.63)
Jammu & Kashmir (-18.32)	Punjab (16.12)
Tripura (-18.15)	Jharkhand (16.12)
West Bengal (-16.39)	Bihar (15.29)
Delhi (-7.06)	Orissa (12.70)
Meghalaya (-5.07)	Arunachal Pradesh (8.66)
Assam (-1.16)	Gujarat (4.32)
	Maharashtra (1.41)

Source: - *Census of India, 1991 & 2011*

3.7 GENDER DIMENSION OF CHILD LABOUR IN INDIA:-

The problem of child labour has many dimensions. It varies according to age and sex of children, class, caste, religion and social groups as well as rural and urban context. Gender variation is very important to get the overview of boy and girl labour to make a comparative analysis. Activities of boy and girl labour varies across different region and also get affected through different socio-cultural and economic indicators. So in

this perspective it could be said that gender variation reflects a broad dimension of child labour. The disparity of boy and girl labour is very helpful to understand the whole scenario of its prevalence rate among gender groups. Moreover, social hierarchy in India is such that girls are more vulnerable to discrimination. In the Indian society, girls are not sent for the paid work outside the home unless it becomes a matter of survival. On the other hand, all the household chores are to be done by girls. This is the reason why total and main child labour is lesser in case of girls, but the marginal child labour is higher in case of girl. The combination of caste, class and gender keeps girls entrenched in family occupations. Girls are pushed into household activity only which supplement the family income despite their wage is far below than boys[43].

Table:-3.15

India

Percentage of Child Labour in age group of 5 to 14 years from 1993-94 to 2004-05

Year	Boy			Girl			Total		
	5 to 9	10 to 14	5 to 14	5 to 9	10 to 14	5 to 14	5 to 9	10 to 14	5 to 14
Total									
1993-94	0.99	12.08	6.35	1.21	11.64	6.12	1.09	11.88	6.24
1999-00	0.52	7.9	4.14	0.55	7.67	4.01	0.54	7.79	4.08
2004-05	0.25	6.35	3.33	0.28	6.42	3.32	0.26	6.38	3.33
Rural									
1993-94	1.16	13.85	7.2	1.43	14.1	7.26	1.29	13.96	7.23
1999-00	0.59	8.85	4.58	0.65	9.05	4.66	0.62	8.94	4.61
2004-05	0.26	6.8	3.54	0.27	7.42	3.73	0.27	7.09	3.63
urban									
1993-94	0.47	6.63	3.58	0.48	4.51	2.52	0.48	5.63	3.08

[43] Kak,Shakti. (2004), "Magnitude and Profile of Child Labour in the 1990s: Evidence from the NSS Data", Social Scientist, Vol. 32, No. 1/2 (Jan. - Feb., 2004), pp. 43-73

1999-00	0.28	4.88	2.65	0.21	3.4	1.85	0.25	4.18	2.27
2004-05	0.21	4.78	2.59	0.3	3.28	1.89	0.25	4.05	2.25

Source: - Derived from Respective Unit Level Records of NSS 50th,55th & 61st round

Boy and Girl labour work participation rate from 1993-94 to 2004-05 are shown with the help of table 1.8. Percentage of child labour in age group of 5 to 14 years in India has been declining in total and even in rural and urban area. But work participation rate among urban girl labour in age group of 5 to 14 years increased from 1999-00 to 2004-05. But in case of boy labour within the same age group work participation rate is recorded declining from 1999-00 to 2004-05.

Figure:-3.6

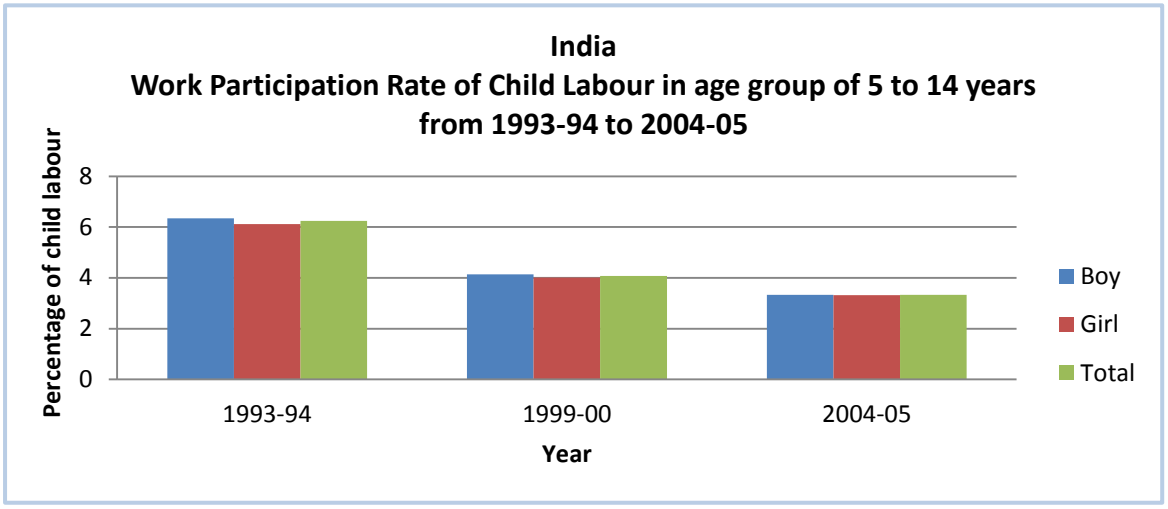


Figure:-3.7

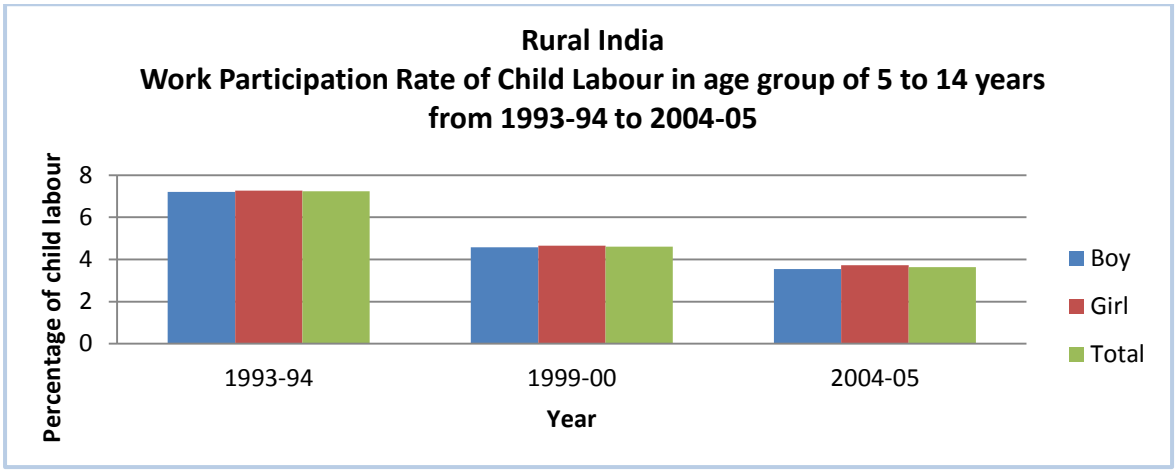
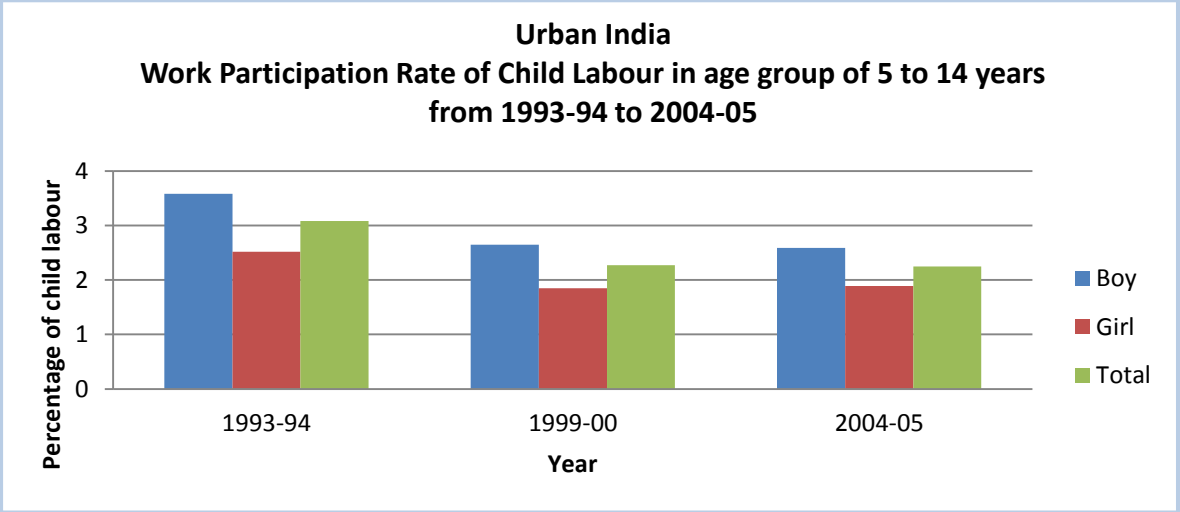


Figure:-3.8



Source: - Derived from Respective Unit Level Records of NSS 50th,55th & 61st round

That means the incidence of child labour is increasing among girls in urban areas of India which may be explained as most of the girls in urban area are working as domestic helper. Increasing needs of such domestic helper or household worker automatically increases the girl work participation rate in urban area. On the other hand girl work participation rate remains higher than boy work participation rate in rural area from 1993-94 to 2004-05.

3.7.1 Regional Distribution of Boy and Girl Labour in India:-

Gender dimension of child labour in India in 1991 and 2001 is shown with the help of table 1.9. In most of the state percentage of girl labour is higher than the percentage of boy labour. This is because of the high concentration girl labour in marginal activity. Boy labour on the other hand is concentrated in main working category. Different socio-cultural as well as economic determinants affect the whole scenario of gender variation in child labour activity.

The highest percentage of boy labour is found in Sikkim which is nearly 12 percent followed by Mizoram, Meghalaya, Nagaland and Himachal Pradesh having boy work participation between 7.5 to 12 percent. On the other hand, the highest prevalence of child labour in case of girl is found in north eastern states like Mizoram, Sikkim,

Nagaland etc and in Himachal Pradesh, Rajasthan, Andhra Pradesh and Chhattisgarh in 2001. Reason of high girl labour in Rajasthan and Andhra Pradesh is the nature of work as most of the girls are engaged in cotton production and agriculture which is labour intensive.

Work participation rate of boy labour is moderately high in states likes in Jammu and Kashmir, Madhya Pradesh, Chhattisgarh, Bihar, Jharkhand, West Bengal, Andhra, Karnataka, Assam, Arunachal and Manipur. However, girl labour is comparably low in these states due to definitional problem and inaccurate data collection. Kerala, Goa, Delhi and Puducherry show very less prevalence of child labour both in case of boy and girl labour in 2001. In Maharashtra boy and girl work participation rate is equal in 2001. Most of north-eastern states recorded to have high work participation rate of girl as well boy labour in 2001.

States which have preponderance of intensive agricultural activities have higher percentage of girl as compare to boy child labour. The boy labour is higher in states where secondary and tertiary activities are dominant. In some state male selected out migration could also affect the gender variation in boy and girl work participation rate.

Table:-3.16

India

Child Labour in Age Group of 5 to 14 Years, 1991 and 2001

State	1991			2001		
	Boy	Girl	Total	Boy	Girl	Total
ANDHRA PRADESH	9.45	10.54	9.98	7.03	8.40	7.70
ARUNACHAL PRADESH	4.63	6.74	5.65	5.22	6.94	6.06
ASSAM	6.80	4.07	5.46	6.03	4.06	5.07
BIHAR	4.93	2.93	3.99	5.61	3.63	4.68
CHANDIGARH	2.14	0.55	1.40	2.71	1.33	2.08
CHHATTISGARH	NA	NA	NA	6.24	7.70	6.96
DELHI	2.09	0.36	1.27	1.98	0.62	1.35
GOA	1.96	1.94	1.95	1.86	1.78	1.82
GUJARAT	5.08	5.45	5.26	3.96	4.63	4.28
HARYANA	3.18	1.81	2.55	4.70	4.86	4.78
HIMACHAL PRADESH	3.58	5.55	4.55	7.69	8.62	8.14

JAMMU & KASHMIR	NA	NA	NA	6.57	6.67	6.62
JHARKHAND	NA	NA	NA	5.41	5.54	5.47
KARNATAKA	8.90	8.71	8.81	7.22	6.58	6.91
KERALA	0.64	0.52	0.58	0.58	0.36	0.47
LAKSHADWEEP	0.42	0.10	0.27	0.31	0.06	0.19
MADHYA PRADESH	7.64	8.56	8.08	6.42	7.03	6.71
MAHARASHTRA	4.89	6.63	5.73	3.54	3.54	3.54
MANIPUR	3.12	4.34	3.72	5.57	5.94	5.75
MEGHALAYA	8.23	6.54	7.39	8.64	7.79	8.22
MIZORAM	9.04	9.75	9.40	11.86	12.83	12.34
NAGALAND	4.87	5.74	5.29	8.25	8.73	8.48
ORISSA	6.30	5.43	5.87	4.15	4.60	4.37
PONDICHERRY	2.03	1.05	1.54	1.31	0.82	1.07
PUNJAB	4.97	0.86	3.04	3.90	2.43	3.23
RAJASTHAN	5.19	7.88	6.46	6.92	9.73	8.25
SIKKIM	5.00	5.38	5.18	11.92	12.17	12.04
TAMIL NADU	4.57	5.11	4.83	3.77	3.43	3.61
TRIPURA	2.61	1.96	2.29	2.85	2.72	2.79
UTTAR PRADESH	4.98	2.46	3.81	4.76	3.32	4.08
UTTARANCHAL	NA	NA	NA	3.13	3.36	3.24
WEST BENGAL	5.58	2.68	4.16	5.09	3.88	4.50
ANDAMAN & NICOBAR ISLANDS	2.38	1.22	1.82	3.17	2.19	2.69
DADRA & NAGAR HAVELI	10.50	16.06	13.22	6.90	10.89	8.84
DAMAN & DIU	3.91	3.88	3.89	3.10	2.02	2.58

Source: - *Census of India, 1991 & 2001*

Table:-3.17

India

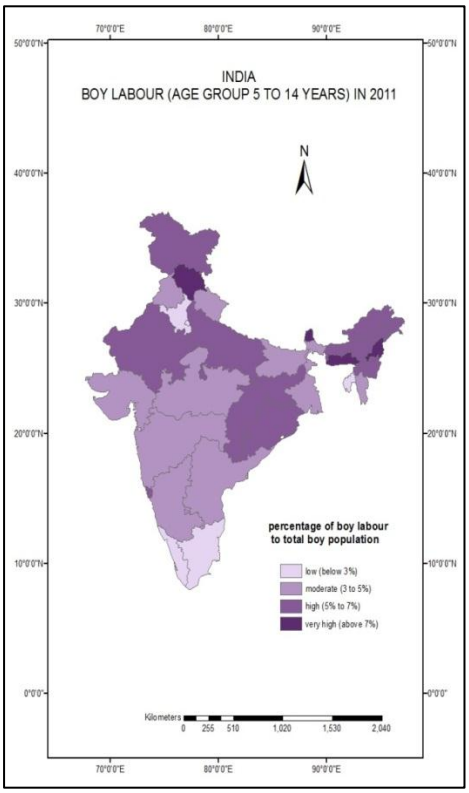
Boy and Girl Labour in age group of 5 to 14 years in 2009-10

State	Boy Population	Boy labour	Percentage of Boy Labour	Girl Population	Girl labour	Percentage of Girl Labour
JAMMU & KASHMIR	849417	19361	2.28	740536	46619	6.30
HIMACHAL PRADESH	647652	13480	2.08	553562	11858	2.14
PUNJAB	2568499	190813	7.43	1815590	185107	10.20
CHANDIGARH	78889	8673	10.99	94528	12647	13.38
UTTARANCHAL	993447	48575	4.89	914370	49751	5.44
HARYANA	2568779	127451	4.96	2018941	152089	7.53
DELHI	1274251	61850	4.85	856203	77761	9.08
RAJASTHAN	7871370	780901	9.92	6849032	1277037	18.65
UTTAR PRADESH	23993142	2608323	10.87	20497748	3297673	16.09
BIHAR	12640706	2079065	16.45	10100444	2272574	22.50
SIKKIM	67687	1695	2.50	61308	1398	2.28
ARUNACHAL PRADESH	145567	14293	9.82	131911	12677	9.61
NAGALAND	122184	2254	1.84	117583	3582	3.05

MANIPUR	262050	3289	1.26	200090	5072	2.53
MIZORAM	89165	1223	1.37	77481	2192	2.83
TRIPURA	302407	11061	3.66	291404	7922	2.72
MEGHALAYA	296057	11599	3.92	282988	8437	2.98
ASSAM	3253614	327554	10.07	2605442	264171	10.14
WEST BENGAL	8174846	885752	10.84	6525014	639617	9.80
JHARKHAND	3486364	344682	9.89	3152170	386175	12.25
ORISSA	3965518	364169	9.18	3583058	353371	9.86
CHATTISGARH	2701966	90367	3.34	2530623	149222	5.90
MADHYA PRADESH	8388303	857134	10.22	7079095	793881	11.21
GUJARAT	5979771	515431	8.62	4400401	833380	18.94
DAMAN & DIU	19465	581	2.98	13777	279	2.03
D & N HAVELI	39638	1460	3.68	25634	2135	8.33
MAHARASTRA	9466128	385566	4.07	8134863	480960	5.91
ANDHRA PRADESH	7761059	418356	5.39	6588273	496040	7.53
KARNATAKA	4807798	281894	5.86	4301233	264015	6.14
GOA	87804	1165	1.33	102529	696	0.68
LAKSHADWEEP	3945	6	0.15	3438	0	0.00
KERALA	2569988	14806	0.58	2532841	26063	1.03
TAMIL NADU	5811381	88355	1.52	4964701	132868	2.68
PONDICHERRY	75527	1296	1.72	90614	543	0.60
A & N ISLANDS	33872	195	0.58	25411	678	2.67
INDIA	121398256	10562675	8.70	102262836	12248490	11.98

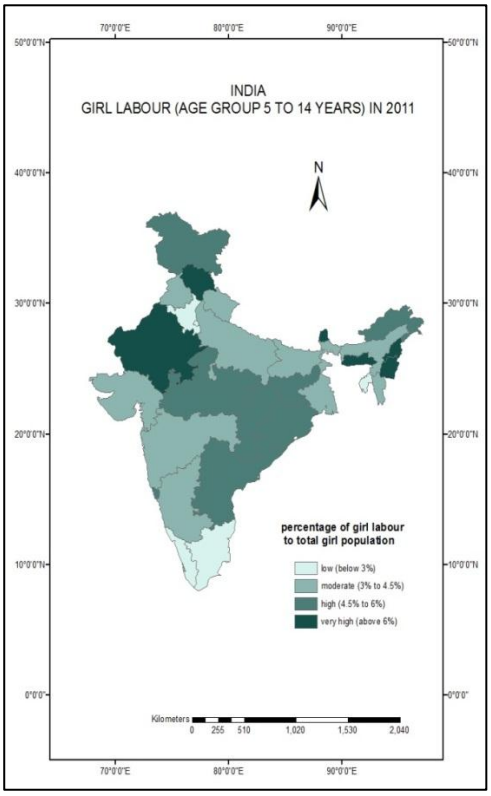
Source: - Extracted from NSSO 66th round on Employment and Unemployment in 2009-10.

Map 3.3



Source: Census 2011

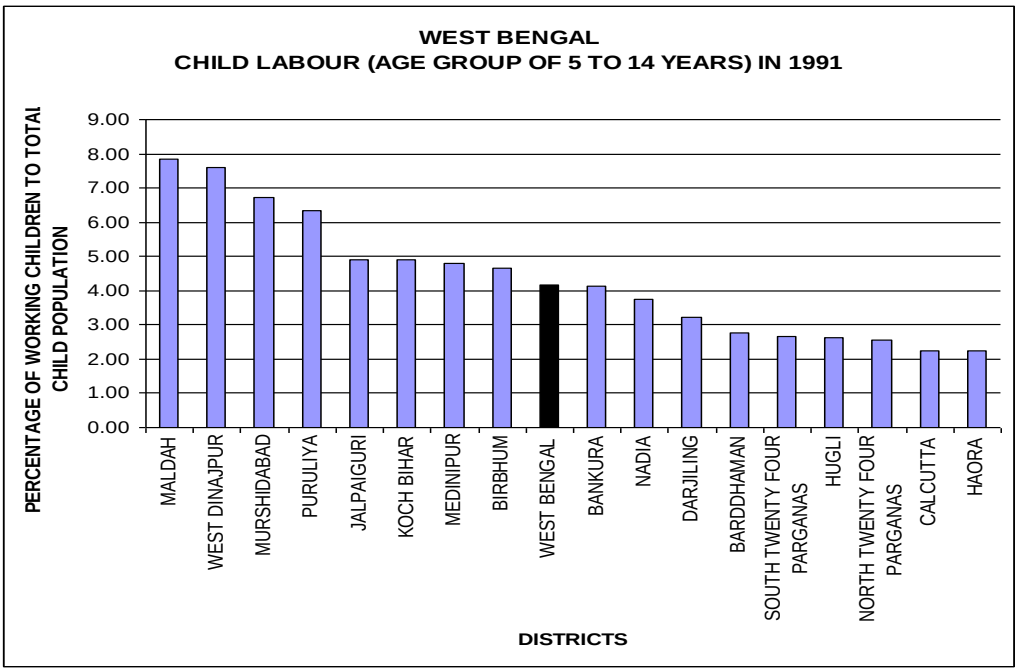
Map 3.4



Source: Census 2011

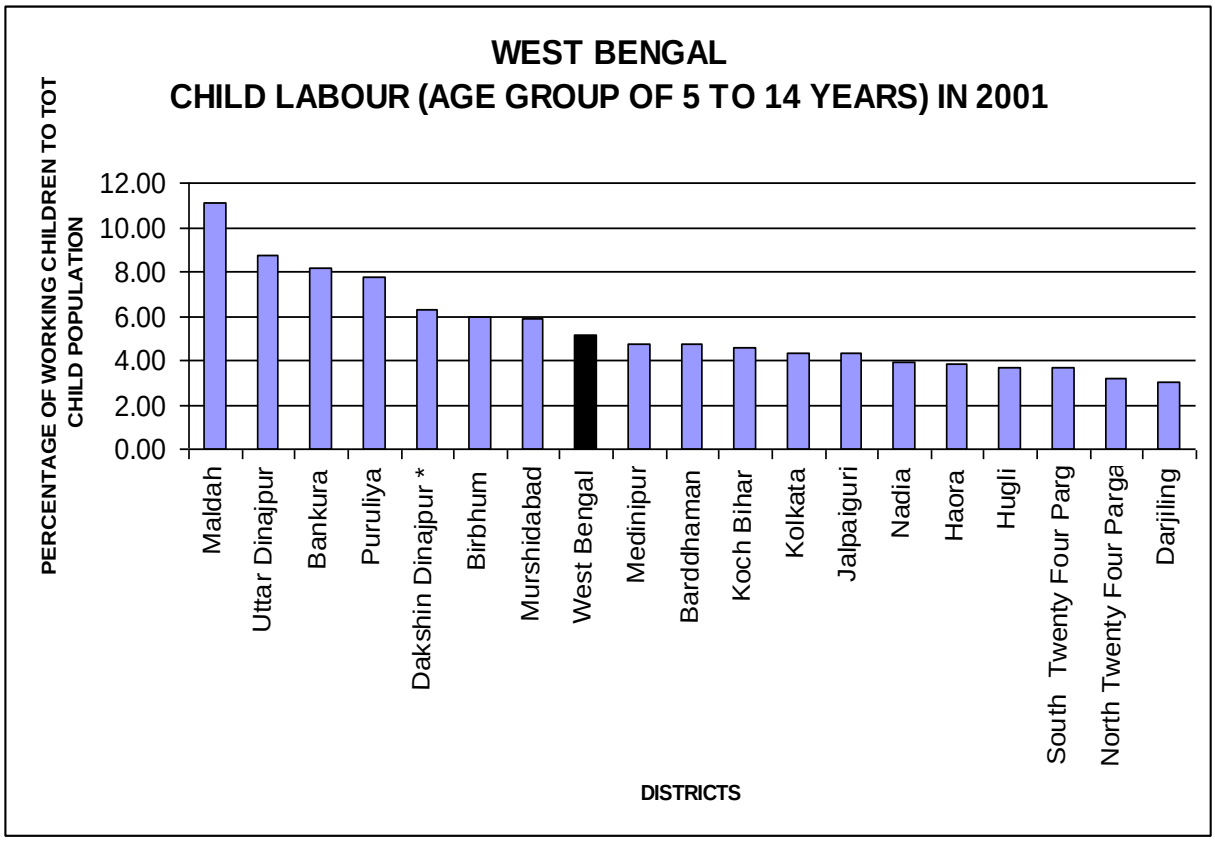
3.7.2 DISTRIBUTION OF BOY AND GIRL LABOUR IN WEST BENGAL:-

Figure 3.9



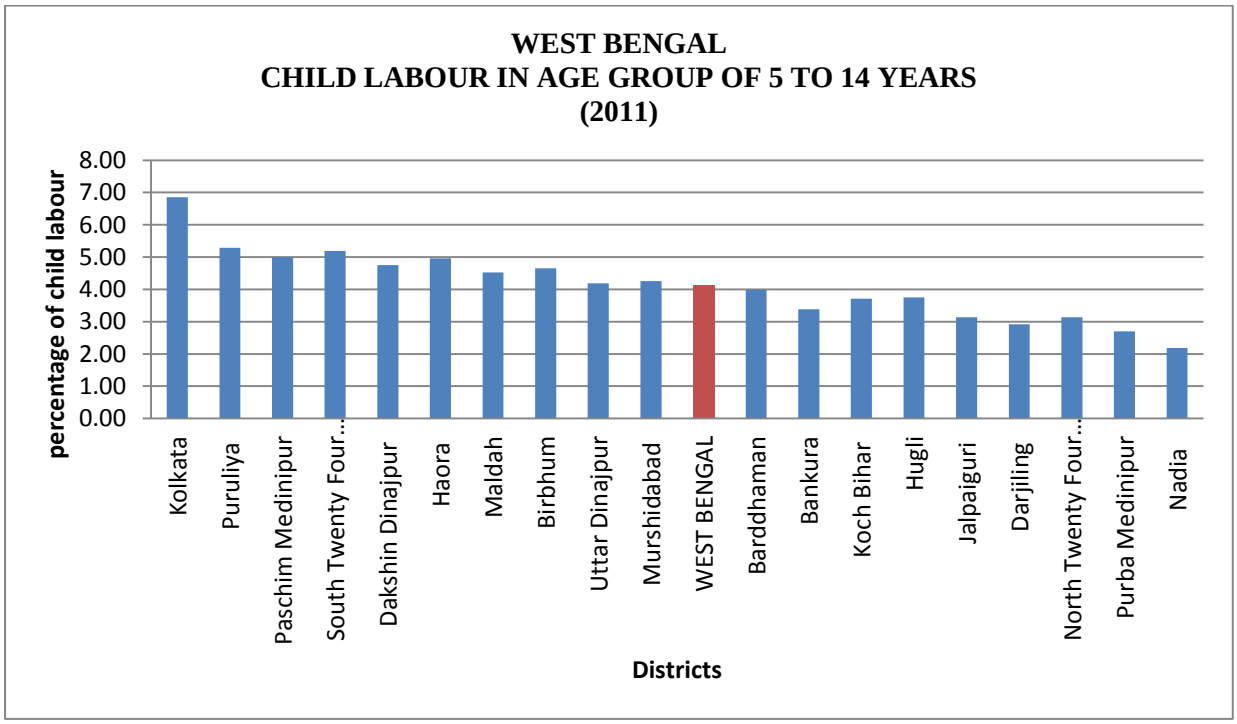
Source: Census 1991

Figure 3.10



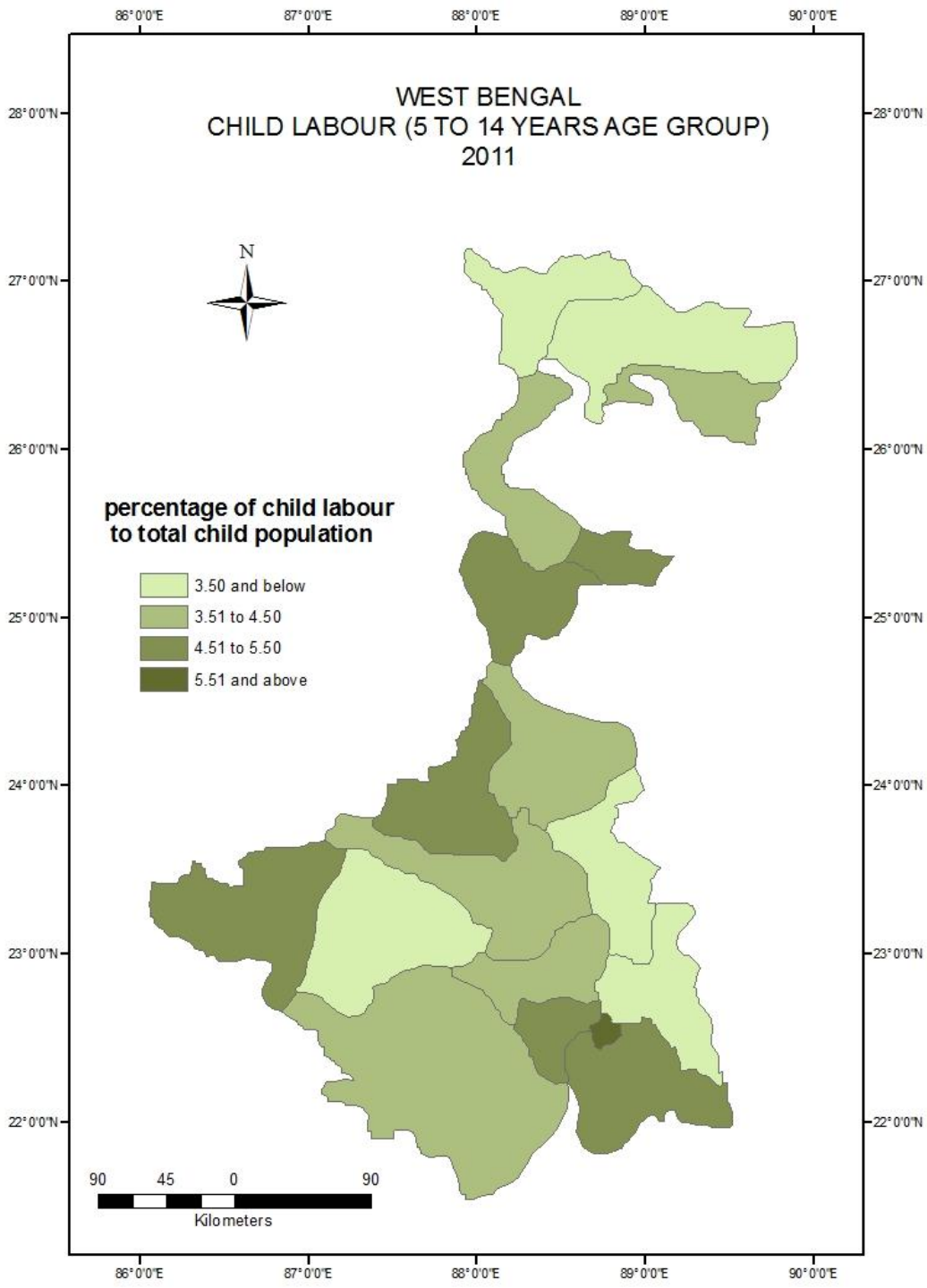
Source: Census 2001

Figure 3.11



Source: Census 2011

Map 3.5



Source: Census 2011

Table 3.18

West Bengal

Child Labour in different districts across gender & age group in 2011

Districts	age group	percentage of child labour	percenatge of boy labour	percentage of girl labour
WEST BENGAL	5-9	1.62	1.72	1.52
WEST BENGAL	10-14	6.37	7.85	4.81
WEST BENGAL	5 to 14	4.12	4.94	3.25
Purba Medinipur	5-9	0.84	0.91	0.76
Purba Medinipur	10-14	4.36	5.85	2.80
Purba Medinipur	5 to 14	2.70	3.52	1.84
Uttar Dinajpur	5-9	1.06	1.15	0.96
Uttar Dinajpur	10-14	7.27	8.80	5.67
Uttar Dinajpur	5 to 14	4.18	4.99	3.34
Bankura	5-9	1.04	1.09	0.99
Bankura	10-14	5.50	6.09	4.87
Bankura	5 to 14	3.38	3.73	3.03
Barddhaman	5-9	1.78	1.93	1.62
Barddhaman	10-14	5.96	7.41	4.43
Barddhaman	5 to 14	3.99	4.83	3.10
Birbhum	5-9	1.50	1.56	1.44
Birbhum	10-14	7.54	9.33	5.66
Birbhum	5 to 14	4.65	5.62	3.64
Dakshin Dinajpur	5-9	1.75	1.92	1.57
Dakshin Dinajpur	10-14	7.28	8.94	5.56
Dakshin Dinajpur	5 to 14	4.75	5.72	3.74
Darjiling	5-9	1.68	1.76	1.60
Darjiling	10-14	3.98	4.63	3.31
Darjiling	5 to 14	2.92	3.30	2.52
Haora	5-9	1.94	2.12	1.75
Haora	10-14	7.67	9.79	5.44
Haora	5 to 14	4.96	6.17	3.70
Hugli	5-9	1.54	1.65	1.42
Hugli	10-14	5.66	7.30	3.95
Hugli	5 to 14	3.75	4.69	2.78
Jalpaiguri	5-9	1.30	1.35	1.24
Jalpaiguri	10-14	4.77	5.65	3.87
Jalpaiguri	5 to 14	3.14	3.62	2.64
Koch Bihar	5-9	1.58	1.63	1.53
Koch Bihar	10-14	5.61	7.23	3.93
Koch Bihar	5 to 14	3.71	4.59	2.80
Kolkata	5-9	4.72	4.98	4.43
Kolkata	10-14	8.64	10.20	6.92
Kolkata	5 to 14	6.86	7.84	5.79
Maldah	5-9	1.35	1.38	1.32

Maldah	10-14	7.52	9.11	5.86
Maldah	5 to 14	4.53	5.35	3.66
Murshidabad	5-9	1.36	1.44	1.28
Murshidabad	10-14	6.91	8.53	5.24
Murshidabad	5 to 14	4.25	5.14	3.34
Nadia	5-9	0.80	0.84	0.75
Nadia	10-14	3.36	4.52	2.16
Nadia	5 to 14	2.18	2.83	1.51
North Twenty Four Parganas	5-9	1.35	1.46	1.23
North Twenty Four Parganas	10-14	4.69	6.55	2.73
North Twenty Four Parganas	5 to 14	3.13	4.18	2.03
Paschim Medinipur	5-9	2.00	2.07	1.93
Paschim Medinipur	10-14	7.71	8.72	6.67
Paschim Medinipur	5 to 14	5.00	5.56	4.42
Puruliya	5-9	1.77	1.80	1.73
Puruliya	10-14	8.76	8.70	8.83
Puruliya	5 to 14	5.29	5.26	5.31
South Twenty Four Parganas	5-9	2.21	2.32	2.10
South Twenty Four Parganas	10-14	7.96	10.15	5.69
South Twenty Four Parganas	5 to 14	5.19	6.37	3.96

Source: Census 2011

3.8 CONCLUSION:-

An earnest attempt has been made to make in-depth study of child labour in India. Through rigorous analysis and calculation some key findings came out in the study which is very helpful in making concluding part of all issues vociferously related to child labour in India. Though child labour recorded a declining trend recently but regional variation and gender dimension are two important issues need to be looked at.

It may be explained as most of the family wants to have more children as they think it would help them to get more helping hand for earning through which they can sustain their family unequivocally without any acrimony. It may also be one of the main cause for which children are missed out from schooling facilities and lost their childhood.

Schooling has very significant effect over the absence of child labour. Child labourers are less likely to be seen among children who are currently attending schools with respect to the children who are currently not attending and never attended school. The main reason came out for not attending schools as most of children do not consider education necessary and schools are too far off from their residence. So it is very important to make free and compulsory education for children in elementary school level. The problem of child labour is like a curse in our society. We cannot blame the obdurate families nor do we keep the children out of work as it would suffer their family's income. It is hugely problematic to address when the children are forced to take part in mendicancy where they are only used like a puppet. That is really very challenging for Government to endure such peril through family planning and free and compulsory education policy. Other than those, the quality of schools and teachers are needed to be improved to attract more children in the premise of schools out of their working precinct.

Government needs to avail endeavor to make manoeuver policies to pulverize the limbo that has several intricacies and lingering like a spectre on our society. Government are least bothered in the child labour related issues as children are out of voting system which diminish the importance of that social ominous in our country. A child that supplies more labour and receives less education will have less human capital, and will be poorer as an adult and thereby perpetuate a vicious cycle of poverty.

CHAPTER 4

MACRO LEVEL SCENARIO OF FOOD SECURITY AND LINK WITH CHILD LABOUR

4.1 INTRODUCTION:-

Various conceptualisations Food security is India is big problem. The main focus should be how to capture the degree of food security as it has so many contexts and dimensions. Food security indicators thus should account all the three dimension of food security. At macro level analysis the outcomes help to understand the national level and state level scenario. This chapter helps to catch the glimpse of food security condition in India. Indicators for food availability, accessibility and utilization are taken from different sources to calculate food security index for West Bengal. At the end of this chapter an attempt has been made to establish linkages between food security and child labour though regression analysis.

4.2 DEFINING FOOD AND NUTRITIONAL SECURITY:-

"Various conceptualisations of the problem of food insecurity and various definitions of food security have been in use since the 1970s. These have reflected the varying concerns of the academics, the practitioners etc., over the years. In the 1970s, many of the definitions of food security concentrated on the concern towards building up national or global level foodstocks, i.e., the importance of the physical availability of foodstocks (Frankenberger and Maxwell, 1992)". Thus, food security in the 1970s was interpreted as, "availability at all times of adequate world supplies of basic foodstuffs…, to sustain a steady expansion of food consumption… and to offset fluctuations in production and prices" (UN, 1975).

• Sufficient knowledge and skills to acquire, prepare and consume a nutritionally adequate diet, including those to meet the needs of young children;

• Access to health services and a healthy environment to ensure effective biological utilisation of the foods consumed; and

• Time and motivation to make the best use of their resources to provide adequate family/household care and feeding practices" (FAO, 2000). An individual's actual nutritional status is thus determined by a number of interrelated factors, of which food security is only one. The term 'nutrition

security' is used to describe the condition of having access to all the food, health, social, economic and environmental factors necessary to achieve nutritional well-being, in accordance with the prevailing cultural context.

4.3 DIMENSION OF FOOD AND NUTRITION INSECURITY:-

• Availability – "the physical availability of foodstocks in desired quantities, which is a function of domestic production, changes in stocks and imports as well as the distribution of food across territories".

• Access – "determined by the bundle of entitlements, i.e., related to people's initial endowments, what they can acquire (especially in terms of physical and economic access to food) and the opportunities open to them to achieve entitlement sets with enough food either through their own endeavours or through State intervention or both".

• Absorption –" defined as the ability to biologically utilise the food consumed. This is in turn, related to several factors such as nutrition knowledge and practices, stable and sanitary physical and environmental conditions to allow for effective biological absorption of food and health status".

Table 4.1

Net Availability of Cereals and Pulses

		Cereals (million tonnes)			Pulses	Food Grains
YEAR	POPULATION (millions)	Net Production	Net Imports	Change In Government stock	Net Availability (million tonnes)	Net Availability
1950-51	363	40.1	4.1	0.1	8.0	44.3
1960-61	442	60.9	3.5	-0.2	11.1	64.6
1970-71	551	84.5	2.0	+2.6	10.3	84.0

1980-81	689	104.1	0.5	-0.2	9.4	104.8
1990-91	852	141.9	-0.6	-4.4	12.9	145.7
2000-01	1033	162.5	-4.5	+12.3	11.3	145.6
2005-06	1103	162.1	-7.2	-2.4	12.7	157.4
2006-07	1120	170.8	-3.8	-1.8	13.3	168.8
2007-08	1136.5	177.7	-7.0	+1.7	14.7	168.9
2008-09	1153.01	197.2	-14.4	+17.0	17.6	165.9
2009-10	1169.4	192.4	-7.2	+11.5	15.8	173.7
2010-11	1210	178.0	-2.4	-0.5	15.3	176.5
2011-21	1271	198.2	-4.2	+8.3	17.3	185.8

Source: Economic Survey (2011-2012)

Table 4.2

Changes in the per capita net availability of foodgrain per day

Decade	Average (grams per capita per day)	Percentage change from previous period
1951-1960	429.83	-
1961-1970	447.53	+4.12
1971-1980	442.20	-1.19
1981-1990	464.20	+4.98
1991-2000	475.51	+2.44
2001-2005	454.20	-4.50

Note: The net availability of food grain is estimated to be gross production less seed, feed and wastage and export plus imports and drawdown of stocks.

Source: Agricultural Statistics (GOI)

Table 4.3

Food grain production and population growth in India from 2006-07 to 2010-11

Year	Food grain		Population	
	Production (mt)	Growth rate (%)	Total (million)	Growth rate (%)
2006-07	217.3	-	1122	-
2007-08	230.8	6.21	1138	1.42
2008-09	234.5	1.60	1154	1.40
2009-10	218.1	-6.99	1170	1.38
2010-11	244.8	12.24	1210	3.41

Source : Economic Survey 2011-12

4.4 GLOBAL HUNGER INDEX:-

"To capture the multidimensional nature of hunger, **GHI** scores are based on the following **four indicators**:

1. UNDERNOURISHMENT: the proportion of undernourished people as a percentage of the population (reflecting the share of the population with insufficient caloric intake);

2. CHILD WASTING: the proportion of children under the age of five who are wasted (that is, have low weight for their height, reflecting acute undernutrition);

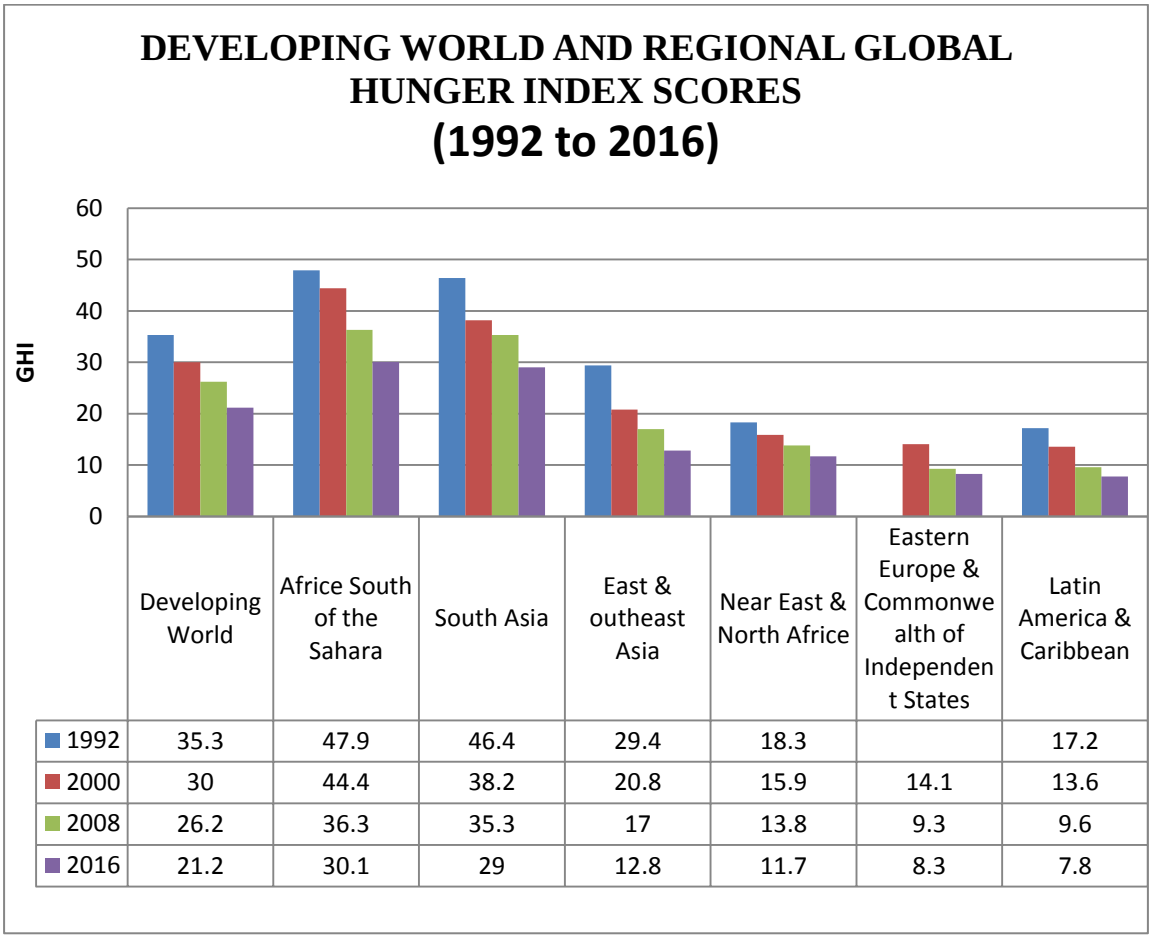
3. CHILD STUNTING: the proportion of children under the age of five who are stunted (that is, have low height for their age, reflecting chronic undernutrition); and

4. CHILD MORTALITY: the mortality rate of children under the age of five (partially reflecting the fatal synergy of inadequate nutrition and unhealthy environments)".

4.5 REGIONAL DIFFERENCES ON GLOBAL HUNGER INDEX:-

"In terms of the major regions of the developing world, Africa south of the Sahara and South Asia have the highest 2016 GHI scores. These scores reflect serious levels of hunger, and while the GHI scores for these regions have declined over time, the current levels are still on the upper end of the serious category, closer to the alarming category (35.0–49.9) than to the moderate (10.0–19.9)".

Figure 4.1

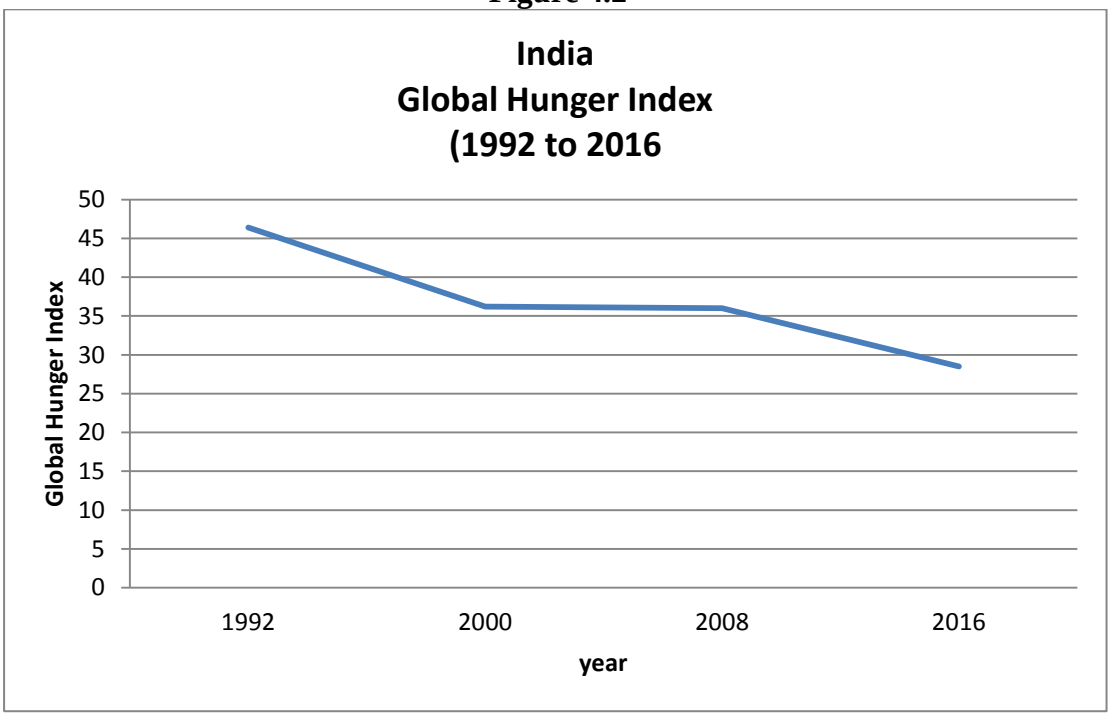


	Developing World	Africe South of the Sahara	South Asia	East & outheast Asia	Near East & North Africe	Eastern Europe & Commonwealth of Independent States	Latin America & Caribbean
1992	35.3	47.9	46.4	29.4	18.3		17.2
2000	30	44.4	38.2	20.8	15.9	14.1	13.6
2008	26.2	36.3	35.3	17	13.8	9.3	9.6
2016	21.2	30.1	29	12.8	11.7	8.3	7.8

Source: GHI, 2016

4.6 INDIA ON GLOBAL HUNGER:-

Figure 4.2



Source: Global Hunger Index

Table 4.4

Table: India on Global Hunger Index

year	India on Global Hunger Index	Rank	Total Countries
1992	46.4	76	96
2000	36.2	83	115
2008	36	102	118
2016	28.5	97	118

Source: Global Hunger Index

Table 4.5

GHI severity scale				
<= 9.9 Low	**10 to 19.9 moderate**	**20.0 to 34.9 serious**	**35.0 to 49.9 alarming**	**50.0<= Extremely alarming**

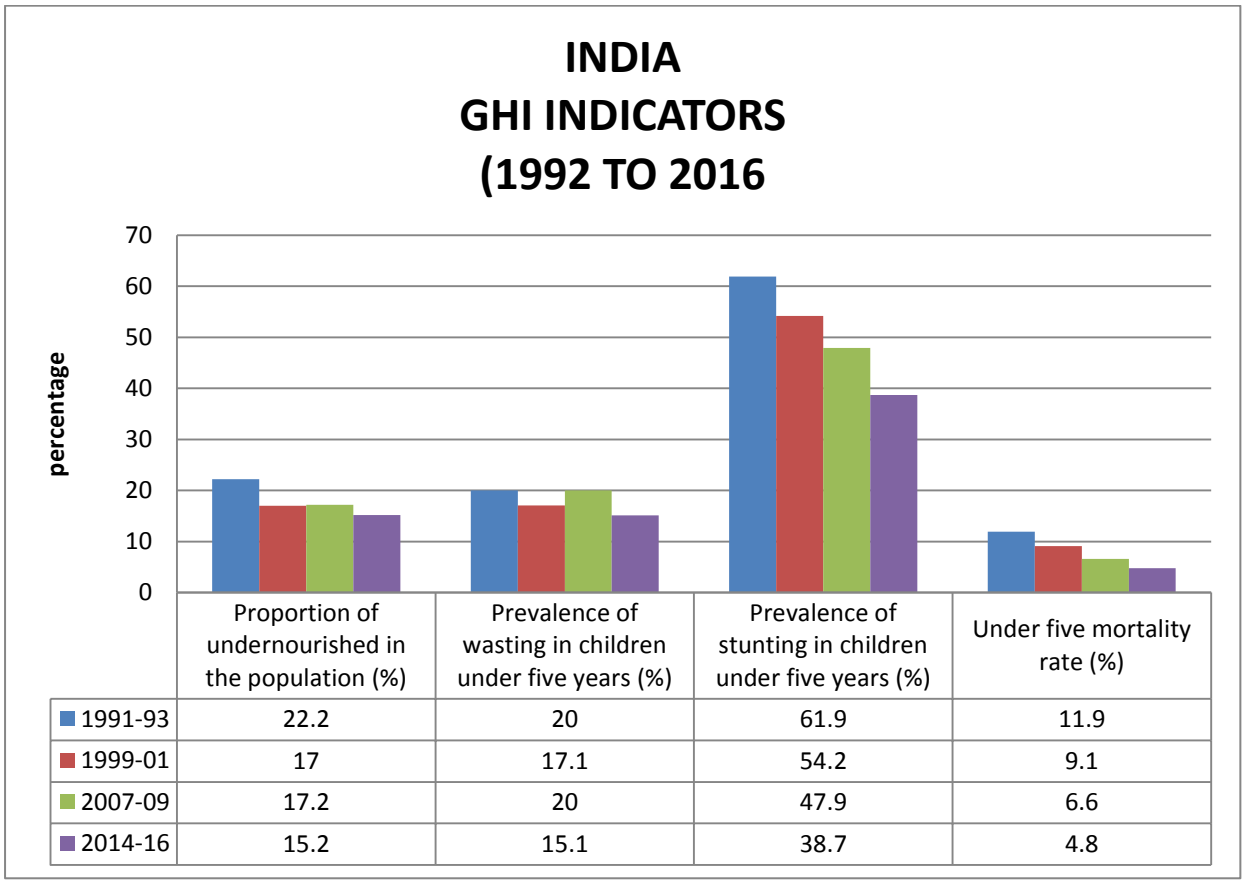
Source: Global Hunger Index

Table 4.6
HOW INDIA COMPARES WITH NEIGHBOURS
GHI 2016

Rank	Country	GHI score	% of malnourished	% under 5 stunted
29	China	7.7	8.8	8.1
72	Nepal	21.9	7.8	37.4
75	Mayanmar	22	14.2	31
84	Srilanka	25.5	22	14.7
90	Bangladesh	27.1	16.4	36.4
97	India	28.5	15.2	38.7
107	Pakistan	33.4	22	45

Source: Global Hunger Index

Figure 4.3



Source: Global Hunger Index

4.7 STATE OF HUNGER IN INDIA:-

While significant levels of food losses occur upstream, at harvest and during post-harvest handling, a lot of food is lost or wasted during the distribution and consumption stages. Some food is also wasted on the shelves and in the warehouses of food businesses either due to excess production, introduction of new products, labeling errors, or due to shorter remaining shelf life. Such food could be salvaged by timely withdrawing it from the distribution network, aggregating it and then redirecting it to the people in need.

Key facts about hunger in India

Largest India is home to the largest undernourished population in the world
15.2% of our population is undernourished
194.6million people go hungry everyday
30.7% of children under 5 are underweight
38.7% of children under 5 years of age are stunted
1 in 4 children malnourished
3,000 children in India die every day from poor diet related illness
24% of under-five deaths in India
30% of neo-natal deaths in India

4.8 HUNGER INDEX FOR INDIA: A STATE LEVEL ANALYSIS:-

4.8.1 INDICATORS OF INDIA STATE HUNGER INDEX:-

The India State Hunger Index is based on the same underlying variables as the Global Hunger Index. These variables are

- the proportion of population that does not consume an adequate level of calories;
- the proportion of underweight children under five years of age; and
- the mortality rate among children under five years of age, expressed as the percentage of children born alive who die before they reach the age of five.

4.8.2 INDIA STATE HUNGER INDEX- CURRENT STATUS AND RANKING OF STATES:-

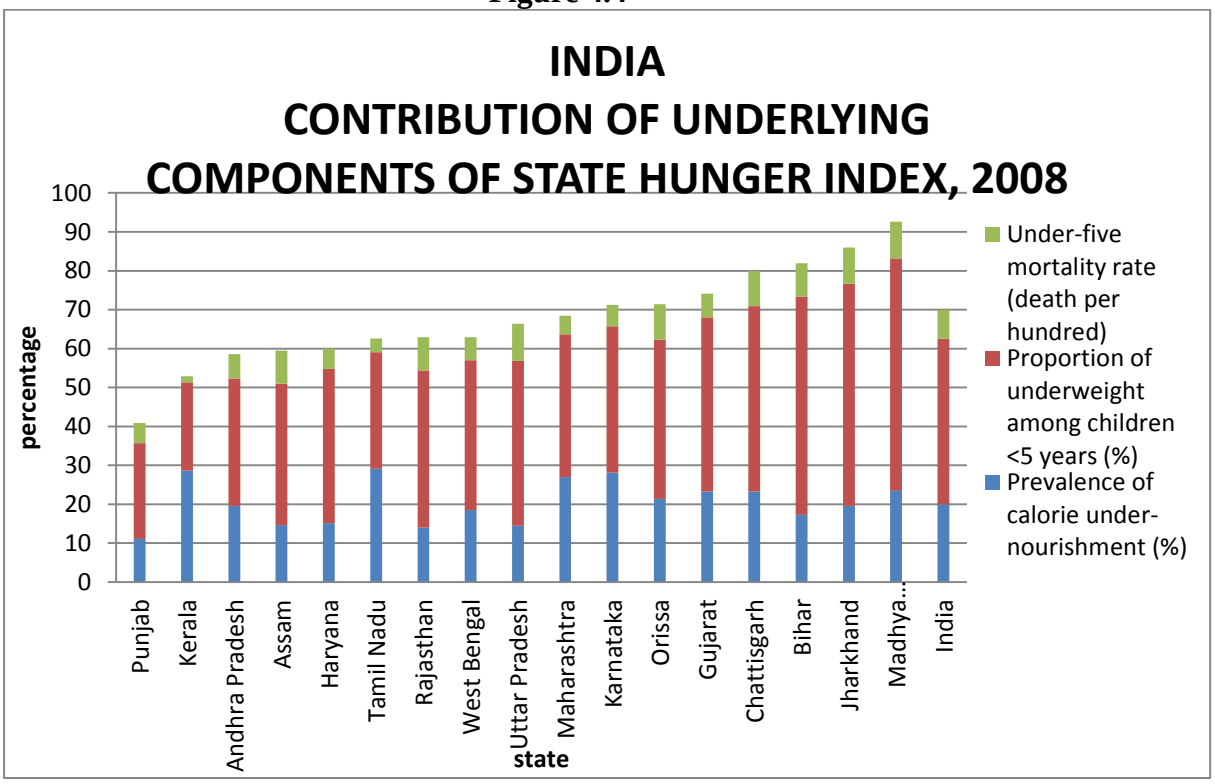
Table 4.6

"The India State Hunger Index and its underlying components"

state	Prevalence of calorie under-nourishment (%)	Proportion of underweight among children <5 years (%)	Under-five mortality rate (death per hundred)	India State Hunger score	India State Hunger Index rank
Punjab	11.1	24.6	5.2	13.63	1
Kerala	28.6	22.7	1.6	17.63	2
Andhra Pradesh	19.6	32.7	6.3	19.53	3
Assam	14.6	36.4	8.5	19.83	4
Haryana	15.1	39.7	5.2	20	5
Tamil Nadu	29.1	30	3.5	20.87	6
Rajasthan	14	40.4	8.5	20.97	7
West Bengal	18.5	38.5	5.9	20.97	8
Uttar Pradesh	14.5	42.3	9.6	22.13	9
Maharashtra	27	36.7	4.7	22.8	10
Karnataka	28.1	37.6	5.5	23.73	11
Orissa	21.4	40.9	9.1	23.8	12
Gujarat	23.3	44.7	6.1	24.7	13
Chattisgarh	23.3	47.6	9	26.63	14
Bihar	17.3	56.1	8.5	27.3	15
Jharkhand	19.6	57.1	9.3	28.67	16
Madhya Pradesh	23.4	59.8	9.4	30.87	17
India	20	42.5	7.4	23.3	

"Note: The India State Hunger Index represents the index calculated using a calorie undernourishment cutoff of 1,632 kcals per person per day to allow for comparison of the India State Hunger Index with the Global Hunger Index 2008".

Figure 4.4



Map 4.1

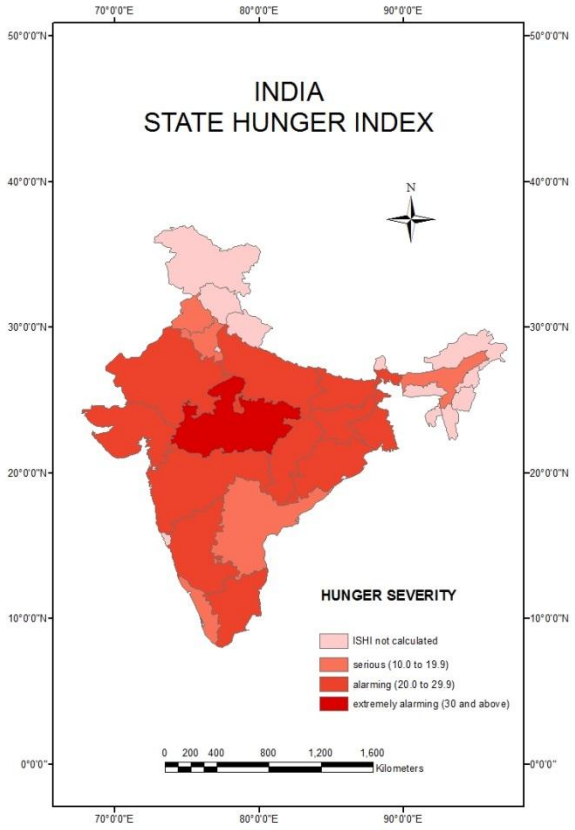


Table 4.7

Change in State Ranking from the Nutrition Index 1994 to State Hunger Index 2008

Nutritional Index rank (1994)	State	India State Hunger Index (2008)	Satet
1	Haryana	1	Punjab
2	Kerala	2	Kerala
3	Rajasthan	3	Andhra Pradesh
4	Punjab	4	Assam
5	Orissa	5	Haryana
6	Andhra Pradesh	6	Tamilnadu
7	West Bengal	7	Rajasthan
8	Uttar Pradesh	8	West Bengal
9	Karnataka	9	Uttar Pradesh
10	Gujarat	10	Maharashtra
11	Madhya Pradesh	11	Karnataka
12	Tamilnadu	12	Orissa
13	Maharashtra	13	Gujarat
14	Assam	14	Chattisgarh
15	Bihar	15	Bihar
		16	Jharkhand
		17	Madhya Pradesh

Note: Nutrition Index 1994 results are from Wiesmann (2004).

4.9 FOOD SECURITY ATLAS OF WEST BENGAL:-

Table 4.8

FOOD SECURITY ATLAS OF WEST BENGAL

Name of Variable	Sources	Reference Year
(b) Availability		
6. Proportion of net irrigated area to net sown area	State Statistical Handbook 2014, Bureau of Applied Economics and Statistics Department of Statistics and Programme Implementation, Government of West	2014

	Bengal	
7. Anuual Per Capita Production of Food Grain (kg)	State Statistical Handbook 2014, Bureau of Applied Economics and Statistics Department of Statistics and Programme Implementation, Government of West Bengal	2014
8. Yield of Food Grain (tonnes per hectare)	State Statistical Handbook 2014, Bureau of Applied Economics and Statistics Department of Statistics and Programme Implementation, Government of West Bengal	2014
9. Percentage of villages having access to pukka road	Census Of India	2011
10. Percentage of Non-Forest cover area to total geographical area	State Statistical Handbook 2014, Bureau of Applied Economics and Statistics Department of Statistics and Programme Implementation, Government of West Bengal	2014
(b)Accessibility		
8. Cultivator and Agricultural Labour ratio	Census of India	2011

9. Percentage of non SC, ST population to total population	Census of India	2011
10. Work participation rate of main worker	Census of India	2011
11. Effective Male Literacy Rate (excluding 0 to 6 years population)	Census of India	2011
12. Effective Female Literacy Rate (excluding 0 to 6 years population)	Census of India	2011
13. Monthly Per Capita Expenditure	NSS 68TH ROUND (computed)	2011-12
14. Rural Casual wage rate	NSS 68th ROUND (computed)	2011-12
(c)Utilization or Absorption		
3. Percentage of Household having access to safe drinking water	Census of India	2011
4. Percentage of villages having access to PHC (within <5 km distance)	Census of India	2011

Table 4.9
Food Availability Index
West Bengal

	Food Availability Index	Rank
Uttar Dinajpur	3.972	1
Dakshin Dinajpur	3.699	2
Nadia	2.896	3
Burdwan	2.880	4

Birbhum	2.854	5
Hooghly	1.618	6
Cooch Behar	1.573	7
Murshidabad	1.079	8
Malda	0.925	9
Purba Medinipur	-0.194	10
Bankura	-0.630	11
North 24-Paragana	-1.061	12
Purulia	-1.590	13
Paschim Medinipur	-1.745	14
Howrah	-2.074	15
Jalpaiguri	-3.324	16
South 24-Paragana	-4.984	17
Darjeeling	-5.793	18

Table 4.10
Food Accessibility Index
West Bengal

	Food Accessibility Index	Rank
Darjeeling	8.711	1
Howrah	4.995	2
Malda	4.371	3
Cooch Behar	3.974	4
Hooghly	3.398	5
Murshidabad	2.990	6
Nadia	1.646	7
Dakshin Dinajpur	1.322	8
Uttar Dinajpur	0.901	9
North 24-Paragana	0.463	10
Purba Medinipur	0.048	11
South 24-Paragana	-0.842	12
Burdwan	-2.088	13
Birbhum	-2.609	14
Bankura	-4.475	15
Paschim Medinipur	-7.433	16
Jalpaiguri	-7.632	17
Purulia	-7.771	18

Table 4.11
Food Utilization Index
West Bengal

	Food Utilization Index	Rank
Cooch Behar	2.658	1
North 24-Paragana	1.691	2
Nadia	1.628	3

Howrah	1.349	4
Hooghly	0.836	5
Purba Medinipur	0.562	6
Burdwan	0.382	7
Uttar Dinajpur	0.175	8
Bankura	-0.211	9
Dakshin Dinajpur	-0.532	10
Murshidabad	-0.550	11
Birbhum	-0.680	12
Malda	-0.739	13
Jalpaiguri	-0.792	14
Paschim Medinipur	-1.093	15
Darjeeling	-1.253	16
South 24-Paragana	-1.391	17
Purulia	-2.051	18

Food security atlas of West Bengal on the front of three dimension of Food security is shown in those above three tables. Index value is calculated for food availability, food accessibility and food utilization for different district of West Bengal and then districts are ranked according to the index value. Birbhum district scored relatively well for food availability index compared to food accessibility and food utilization index. It ranked 5th (scored 2.854) among all the district on food availability front. It ranked 14th (-2.609) on food accessibility front. Its worst performance among the three dimension of food security. It could be concluded that Birbhum district performs well on food availability indicators but its performance is worst on food accessibility front and not that good on food utilization front.

4.10 Link between Food Security and Child Labour:-

Table 4.12
Regression Analysis of State Hunger and Child Labour in India, 2011

Regression Statistics	
Multiple R	0.439656
R Square	0.193298

Adjusted R Square	0.13951717
Standard Error	3.93749091
Observations	17

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	55.72417	55.72417	3.594219	0.077414
Residual	15	232.5575	15.50383		
Total	16	288.2816			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*
Intercept	15.95939	3.626384	4.400909	0.000516	8.229932	23.68884	8.229932
X Variable 1	1.547707	0.816369	1.895843	0.077414	-0.19234	3.287756	-0.19234

In this regression analysis,

X= independent variable= India State Hunger Index

Y= dependable variable= Child Work Participation

Better hunger index has an negative impact on the growth of agricultural production. In simple regression, R is the absolute value of Pearson's coefficient of correlation. Its sign will be the same as that of the b_1 coefficient. The coefficient of determination r^2 expresses the proportion of the variation in y which is explained by variation in x. That is 0.193 in this case (means 19%). The p-value of the hypothesis test H_0: $\beta_1 = 0$ is less than 0.005 To reject it is to conclude that there is a significant relationship between x and y. Note that it is also the p-value of the test for the correlation coefficient H_0: $\rho = 0$. To check if the results are reliable (statistically significant), look at Significance F (0.077). As this value is not less than 0.05, that means its not ok. It would have been probably better to stop using this set of independent variables.

Table 4.13
Regression Analysis of Food Availability and Child Labour in West Bengal, 2011

Regression Statistics	
Multiple R	0.022273
R Square	0.000496
Adjusted R Square	-0.06197
Standard Error	2.981444
Observations	18

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	0.070587	0.070587	0.007941	0.930099
Residual	16	142.2241	8.889009		
Total	17	142.2947			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*
Intercept	0.283248	3.194365	0.088671	0.930444	-6.4885	7.055	-6.4885
X Variable 1	-0.06971	0.782181	-0.08911	0.930099	-1.72785	1.5884	-1.72785

In this regression analysis,

X= independent variable= Food Availability Index

Y= dependable variable= Child Work Participation

Better Food Availability has an negative impact on the child labour. In simple regression, R is the absolute value of Pearson's coefficient of correlation. Its sign will be the same as that of the b_1 coefficient. The coefficient of determination r^2 expresses the proportion of the variation in y which is explained by variation in x. That is 0.0004 in this case (very less). The p-value of the hypothesis test H_0: $\beta_1 = 0$ is not less

than 0.005 To reject it is to conclude that there is not a significant relationship between x and y. Note that it is also the p-value of the test for the correlation coefficient H_0: $\rho = 0$. To check if the results are reliable (statistically significant), look at Significance F (0.046). As this value is not less than 0.05, that means it is not ok. It would have been probably better to stop using this set of independent variables. But here Significance F drops below 0.05.

Table 4.14
Regression Analysis of Food Accessibility and Child Labour in West Bengal, 2011

Regression Statistics	
Multiple R	0.228101
R Square	0.052023
Adjusted R Square	-0.00722
Standard Error	4.666199
Observations	18

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	19.12072	19.12072	0.878168	0.362635
Residual	16	348.3746	21.77341		
Total	17	367.4953			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*
Intercept	4.568416	4.999438	0.913786	0.374395	-6.02992	15.16675	-6.02992
X Variable 1	-1.14718	1.224177	-0.93711	0.362635	-3.74232	1.44955	-3.74232

In this regression analysis,

X= independent variable= Food Accessibility Index

Y= dependable variable= Child Work Participation

Better Food accessibility has an negative impact on the child labour. In simple regression, R is the absolute value of Pearson's coefficient of correlation. Its sign will be the same as that of the b_1 coefficient. The coefficient of determination r^2 expresses the proportion of the variation in y which is explained by variation in x. That is 0.05 in this case (means only 5%). The p-value of the hypothesis test H_0: $\beta_1 = 0$ is not less than 0.005 To reject it is to conclude that there is not a significant relationship between x and y. Note that it is also the p-value of the test for the correlation coefficient H_0: $\rho = 0$. To check if the results are reliable (statistically significant), look at Significance F (0.36). As this value is not less than 0.05, that means it is not ok.

Table 4.15
Regression Analysis of Food Utilization and Child Labour in West Bengal, 2011

Regression Statistics	
Multiple R	0.475658
R Square	0.226251
Adjusted R Square	0.177891
Standard Error	1.137533
Observations	18

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	6.053936	6.053936	4.678535	0.046025
Residual	16	20.7037	1.293981		
Total	17	26.75763			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*

Intercept	2.571059	1.21877	2.109552	0.051001	-0.01262	5.154737	-0.01262
X Variable 1	-0.64551	0.298432	-2.16299	0.046025	-1.27815	-0.01286	-1.27815

In this regression analysis,

X= independent variable= Food Utilization Index

Y= dependable variable= Child Work Participation

Better Food Utilization has an negative impact on the child labour. In simple regression, R is the absolute value of Pearson's coefficient of correlation. Its sign will be the same as that of the b_1 coefficient. The coefficient of determination r^2 expresses the proportion of the variation in y which is explained by variation in x. That is 0.226 in this case (means 22%). The p-value of the hypothesis test H_0: $\beta_1 = 0$ is not less than 0.005 To reject it is to conclude that there is not a significant relationship between x and y. Note that it is also the p-value of the test for the correlation coefficient H_0: $\rho = 0$. To check if the results are reliable (statistically significant), look at Significance F (0.046). As this value is less than 0.05, that means its ok. Had the Significance F been greater than 0.05, it would have been probably better to stop using this set of independent variables. But here Significance F drops below 0.05.

CHAPTER 5

MICRO LEVEL SCENARIO OF CHILD LABOUR

5.1 INTRODUCTION:-

Freshly released Census 2011 data has revealed two alarming facts. As many as 78 lakh Indian children are forced to earn a livelihood even as they attend schools while 8.4 crore children don't go to school at all[44].

Although the share of working students is low compared to the whole student population, the numbers are sufficiently big to show how much importance is placed on education by families and the children themselves. They also point at the increasing cost of education, which should ideally be free for the age group of 5 to 17 years.

Among students who work, 57% are boys, the remaining 43% are girls. Not surprising in a country where women account for only 27% of the workforce because patriarchal attitudes and lack of jobs force them into domestic work.

Table 5.1

India

Child Statistics 2011

Working students (5 to 17 years) 78 lakh	Out of school students (5 to 17 years) 8.4 crore
Working around the year 32% Working up to 6 months 68%	**Working 19%** **Not working 81%**
Boy 57% Girl 43%	**Boy 51%** **Girl 49%**

Source: Census 2011

By the enactment of the Right of Children to Free and Compulsory Act 2009 (RTE Act), the Government of India has made the right to education, a fundamental right for children. Every child in the age group of 6 to 14 years is to be provided free and compulsory education. Realization of the objectives of child labour policy is reflected not only in the progressive increase in enrolment and school attendance of children

[44] The Times of India, New Delhi, Friday, September 23, 2016, Front Page.

but also in the **reduction in the magnitude of child labour from 12.7 million in 2001 to 10.1 million in 2011**. Around the same period the NSSO survey report showed a **decline of working children from 9.07 million in 2004-05 to 4.98 million in 2009-10**.

Government of India has been pro-active in addressing the issue of child labour which we could see in the provisions in the articles of constitution of India. In National Child Labour Policy, resource provision has been possible to ensure implementation of child labour legislation. The policy is made in such a way to adopt a gradual and sequential approach with a focus on rehabilitation of children working in hazardous occupation and processes. The Government has initiated different ways for rehabilitation of children withdrawn and rescued from various work and constituted Task Force to conceptualize the rehabilitation projects and to contribute to their implementation, planning and monitoring.

It is recorded that more than 12 lakh children rehabilitated since 1988 in India from the inception of National Child Labour Project (NCLP) Scheme. The scheme is sanctioned in 270 districts of 21 states, out of which Special Training Centres (STCs) are operational in 104 districts.

Finds are released to the district project societies headed by District Magistrates/ Collectors who in turn allocate the funds for the Special Training Centres run by NGOs/ Government agencies/ local bodies etc. NGOs appoint volunteers for the special school and get paid a consolidated amount of honorarium.

5.2 CHILD LABOUR WITHIN SCHOOL AND OUT OF SCHOOL IN STUDY AREA:-

Table 5.2

Child Labour within School and Out of School in Birbhum, 2012-13

BLOCK				CHILD STUDY OR WORK OR BOTH		Total
				work	study & work	
RAMPURHAT	CHILD AGE	5 to 9 years		9	12	21
				42.9%	57.1%	100.0%
		10 to 15 years		18	26	44
				40.9%	59.1%	100.0%

	Total			27	38	65
				41.5%	58.5%	100.0%
NALHATI	CHILD AGE	5 to 9 years		8	9	17
				47.1%	52.9%	100.0%
		10 to 15 years		25	29	54
				46.3%	53.7%	100.0%
	Total			33	38	71
				46.5%	53.5%	100.0%
MURARAI	CHILD AGE	5 to 9 years		1	6	7
				14.3%	85.7%	100.0%
		10 to 15 years		32	18	50
				64.0%	36.0%	100.0%
	Total			33	24	57
				57.9%	42.1%	100.0%

Source: Computed from Primary data analysis

Among total child labour, 58.5% children study as well as work to support their family in Rampurhat block. Whereas 41.5% children are out of school and engaged in work. Almost similar picture could be seen across 5 to 9 and 10 to 15 years age group in Rampurhat block.

Compare to Rampurhat, Nalhati is recorded to have relatively higher percentage of out of school children who are working and it is relatively higher in case of 5 to 9 years age group compare to 10 to 14 years age group. Among three blocks, Murarai is recorded to have highest percentage of out of school children who are working and they are relatively higher in age group of 10 to 14 years compare to 5 to 9 years age group of children.

Chi-Square Tests					
BLOCK		Value	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
RAMPURHAT	Pearson Chi-Square	.022[a]	.882		
	Continuity Correction[b]	.000	1.000		
	Likelihood Ratio	.022	.882		
	Fisher's Exact Test			1.000	.546
	Linear-by-Linear Association	.022	.882		
	N of Valid Cases	65			

NALHATI	Pearson Chi-Square	.003[c]	.956		
	Continuity Correction[b]	.000	1.000		
	Likelihood Ratio	.003	.956		
	Fisher's Exact Test			1.000	.587
	Linear-by-Linear Association	.003	.956		
	N of Valid Cases	71			
MURARAI	Pearson Chi-Square	6.226[d]	.013		
	Continuity Correction[b]	4.353	.037		
	Likelihood Ratio	6.508	.011		
	Fisher's Exact Test			.034	.018
	Linear-by-Linear Association	6.116	.013		
	N of Valid Cases	57			

Photo: a child labour engaged in stone crushing in Chandpur village of Rampurhat Block

Photo: Stone crushing unit in Chandpur village of Rampurhat Block.

5.3 BOY AND GIRL CHILD LABOUR IN DIFFERENT AGE GROUP IN STUDY AREA:-

Table 5.3

Boy and Girl Labour in different Age Group in Birbhum, 2012-13

BLOCK				SEX OF CHILD		Total
				MALE	FEMALE	
RAMPURHAT	CHILD AGE	5 to 9 years		8	13	21
				38.1%	61.9%	100.0%
		10 to 15 years		26	18	44
				59.1%	40.9%	100.0%
	Total			34	31	65
				52.3%	47.7%	100.0%
NALHATI	CHILD AGE	5 to 9 years		7	10	17
				41.2%	58.8%	100.0%
		10 to 15 years		35	19	54
				64.8%	35.2%	100.0%
	Total			42	29	71
				59.2%	40.8%	100.0%
MURARAI	CHILD AGE	5 to 9 years		5	2	7
				71.4%	28.6%	100.0%
		10 to 15 years		44	6	50

				88.0%	12.0%	100.0%
	Total			49	8	57
				86.0%	14.0%	100.0%

Source: Computed from Primary data analysis

In 5 to 9 years age group, girl labour are recorded higher than boy labour in Rampurhat. Though opposite scenario could be seen in case of 10 to 15 years age group where percentage of boy labour is quite higher than girl labour. Almost similar scenario is recorded in case of Nalhati. But in case of Murarai, percentage of boy labour in quite higher than girl labour across 5 to 9 years as well as 10 to 15 years age group.

Chi-Square Tests

BLOCK		Value	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
RAMPURHAT	Pearson Chi-Square	2.512[a]	.113		
	Continuity Correction[b]	1.741	.187		
	Likelihood Ratio	2.526	.112		
	Fisher's Exact Test			.184	.093
	Linear-by-Linear Association	2.473	.116		
	N of Valid Cases	65			
NALHATI	Pearson Chi-Square	2.990[c]	.084		
	Continuity Correction[b]	2.092	.148		
	Likelihood Ratio	2.951	.086		
	Fisher's Exact Test			.098	.075
	Linear-by-Linear Association	2.948	.086		
	N of Valid Cases	71			
MURARAI	Pearson Chi-Square	1.398[d]	.237		
	Continuity Correction[b]	.362	.548		
	Likelihood Ratio	1.170	.279		
	Fisher's Exact Test			.252	.252
	Linear-by-Linear Association	1.373	.241		
	N of Valid Cases	57			

Photo: A child labour engaged in agricultural activity near Tejhati village of Nalhati Block

5.4 Boy and Girl Child Labour in different age group within and Out of School in study area:-

Table 5.4

Boy and Girl Labour in different Age Group within and Out of School in Birbhum, 2012-13

BLOCK				CHILD STUDY OR WORK OR BOTH		Total
				work	study & work	
RAMPURHAT	SEX OF CHILD	MALE		14	20	34
				41.2%	58.8%	100.0%
		FEMALE		13	18	31
				41.9%	58.1%	100.0%
	Total			27	38	65
				41.5%	58.5%	100.0%
NALHATI	SEX OF CHILD	MALE		24	18	42
				57.1%	42.9%	100.0%
		FEMALE		9	20	29

				31.0%	69.0%	100.0%
	Total			33	38	71
				46.5%	53.5%	100.0%
MURARAI	SEX OF CHILD	MALE		29	20	49
				59.2%	40.8%	100.0%
		FEMALE		4	4	8
				50.0%	50.0%	100.0%
	Total			33	24	57
				57.9%	42.1%	100.0%

Source: Computed from Primary data analysis

In Rampurhat, percentage of boy and girl labour both are recorded higher in case of attending school as well as working compare to children who are out of school and only working. But in Nalhati, only working and out of school boy labour are higher than girl labour. Relatively higher percentage of girl labour work as well as attend school. Whereas in Murarai, percentage of out of school and working boy labour is higher compare to boy labour who are attending school as well as work. But percentage is same both in case of working girl who are out school and working girl who are in schooling system.

Chi-Square Tests

BLOCK		Value	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
RAMPURHAT	Pearson Chi-Square	.004[a]	.951		
	Continuity Correction[b]	.000	1.000		
	Likelihood Ratio	.004	.951		
	Fisher's Exact Test			1.000	.575
	Linear-by-Linear Association	.004	.951		
	N of Valid Cases	65			
NALHATI	Pearson Chi-Square	4.701[c]	.030		
	Continuity Correction[b]	3.710	.054		
	Likelihood Ratio	4.786	.029		
	Fisher's Exact Test			.052	.026
	Linear-by-Linear Association	4.635	.031		
	N of Valid Cases	71			
MURARAI	Pearson Chi-Square	.238[d]	.626		

	Continuity Correction[b]	.010	.919		
	Likelihood Ratio	.235	.627		
	Fisher's Exact Test			.709	.454
	Linear-by-Linear Association	.234	.629		
	N of Valid Cases	57			

5.5 BOY AND GIRL LABOUR IN DIFFERENT VILLAGES IN STUDY AREA:-

Table 5.5

Boy and Girl Labour in different villages in Birbhum, 2012-13

BLOCK				SEX OF CHILD		Total
				MALE	FEMALE	
RAMPURHAT	VILLAGE	Shrikrishnapur Pakhuria		7	6	13
				53.8%	46.2%	100.0%
		Ramrampur		12	10	22
				54.5%	45.5%	100.0%
		Chandpur		15	15	30
				50.0%	50.0%	100.0%
	Total			34	31	65
				52.3%	47.7%	100.0%
NALHATI	VILLAGE	Tejhati		15	12	27
				55.6%	44.4%	100.0%
		Harisara		15	12	27
				55.6%	44.4%	100.0%
		Bautia		12	5	17
				70.6%	29.4%	100.0%
	Total			42	29	71
				59.2%	40.8%	100.0%
MURARAI	VILLAGE	Duria		18	5	23
				78.3%	21.7%	100.0%
		Chatra		18	1	19
				94.7%	5.3%	100.0%
		Palsa		13	2	15
				86.7%	13.3%	100.0%
	Total			49	8	57
				86.0%	14.0%	100.0%

Source: Computed from Primary data analysis

Across different villages, percentage of boy labour is highest in Chatra followed by Palsa (Murarai Block), Duria (Murarai Block), Bautia (Nalhati Block), Tejhati (Nalhati Block), Harisara (Nalhati Block), Ramrampur (Rampurhat Block), Shrikrishnapur Pakhuria (Rampurhat Block) and Chandpur (Rampurhat Block). Except Chandpur all other villages are recorded higher percentage of boy labour than girl labour.

Chi-Square Tests

BLOCK		Value	Asymp. Sig. (2-sided)
RAMPURHAT	Pearson Chi-Square	.121[a]	.942
	Likelihood Ratio	.121	.942
	Linear-by-Linear Association	.082	.775
	N of Valid Cases	65	
NALHATI	Pearson Chi-Square	1.209[b]	.546
	Likelihood Ratio	1.244	.537
	Linear-by-Linear Association	.814	.367
	N of Valid Cases	71	
MURARAI	Pearson Chi-Square	2.349[c]	.309
	Likelihood Ratio	2.538	.281
	Linear-by-Linear Association	.778	.378
	N of Valid Cases	57	

5.6 CHILD LABOUR ACROSS DIFFERENT TYPE OF WORK IN STUDY AREA :-

Table 5.6

Child Labour in different type of work in Birbhum, 2012-13

VILLAGE * CHILD WORKER * BLOCK Crosstabulation

BLOCK				CHILD WORKER			Total
				Wage Earner	Domestic Worker	Agricultural Labour	
RAMPURHAT	VILLAGE	Shrikrishnapur Pakhuria		5	3	5	13
				38.5%	23.1%	38.5%	100.0%
		Ramrampur		3	3	16	22
				13.6%	13.6%	72.7%	100.0%
		Chandpur		22	4	4	30

				73.3%	13.3%	13.3%	100.0%
	Total			30	10	25	65
				46.2%	15.4%	38.5%	100.0%
NALHATI	VILLAGE	Tejhati		2	4	21	27
				7.4%	14.8%	77.8%	100.0%
		Harisara		7	9	11	27
				25.9%	33.3%	40.7%	100.0%
		Bautia		7	2	8	17
				41.2%	11.8%	47.1%	100.0%
	Total			16	15	40	71
				22.5%	21.1%	56.3%	100.0%
MURARAI	VILLAGE	Duria		7	3	13	23
				30.4%	13.0%	56.5%	100.0%
		Chatra		10	3	6	19
				52.6%	15.8%	31.6%	100.0%
		Palsa		11	3	1	15
				73.3%	20.0%	6.7%	100.0%
	Total			28	9	20	57
				49.1%	15.8%	35.1%	100.0%

Source: Computed from Primary data analysis

Children are engaged in different kind of economic activities which could be classified broadly into three categories as following, 1. Wage earner, 2. Domestic worker and 3. Agricultural Labour. In Rampurhat block most of the child labourers are actually wage earner (46.2%) followed by agricultural labour (38.5%) and Domestic worker (15.4%). Whereas if we see across different villages of Rampurhat block, then it could be said that Ramrampur is recoded to have highest percentage share of child labour engaged as agricultural labour, Chandpur is recorded to have highest percentage share of wage earning child labour and main reason for children engaged in wage earning because the presence of many stone crushing units work as pull factor and lack of interest in schooling and high drop out rate work as push factor for children to engaged in stone crushing units. Children are very docile and lacks of unionization help employers prefer children over adults.

In Nalhati block, scenario is quite different from Rampurhat block. More than 50 per cent (56.3%) of child labour are actually working as agricultural labourers followed by wage earner (22.5) and closely followed by domestic worker (21.1%). Tejhati village is recorded to have highest percentage share of agricultural labour

(77.8%) because agriculture is widely practised here and easily available economic activity which provides livelihood and food security to the needy families. Child labour working as domestic worker is relatively high in Harisara compare to Tejhati and Bautia.

Chi-Square Tests

BLOCK		Value	Asymp. Sig. (2-sided)
RAMPURHAT	Pearson Chi-Square	22.276[a]	.000
	Likelihood Ratio	23.710	.000
	Linear-by-Linear Association	8.469	.004
	N of Valid Cases	65	
NALHATI	Pearson Chi-Square	12.248[b]	.016
	Likelihood Ratio	12.512	.014
	Linear-by-Linear Association	7.336	.007
	N of Valid Cases	71	
MURARAI	Pearson Chi-Square	10.282[c]	.036
	Likelihood Ratio	11.575	.021
	Linear-by-Linear Association	9.498	.002
	N of Valid Cases	57	

In the Murarai block, almos 50% (49.1%) child labourers are wage earner followed by agricultural labour (35.1%) and domestic worker (15.8%). Whereas in Duria more than 50% (56.5%) child labourers are agricultural labour foolowed by wage earner and domestic worker. More than 50% per cent child labourers in Chatra are wage earner because of the presence of brick kiln units which work as pull factor and lack of food security work as push factor for children. Main reason for children to engage in Wage earning activities in Palsa is the presence of people of Pal communities who are traditionally engaged in earthen pot making activities. Presence of many brick kiln units also work as pull factor for children to engage in wage earning .

5.7 CHILD LABOUR IN DIFFERENT TYPE OF WORK ACROSS DIFFERENT AGE GROUP IN STUDY AREA :-

Table 5.7

Child Labour in different type of work across different Age Group in Birbhum, 2012-13

BLOCK				CHILD WORKER			Total
				Wage Earner	Domestic Worker	Agricultural Labour	
RAMPURHAT	CHILD AGE	5 to 9 years		7	7	7	21
				33.3%	33.3%	33.3%	100.0%
		10 to 15 years		23	3	18	44
				52.3%	6.8%	40.9%	100.0%
	Total			30	10	25	65
				46.2%	15.4%	38.5%	100.0%
NALHATI	CHILD AGE	5 to 9 years		1	5	11	17
				5.9%	29.4%	64.7%	100.0%
		10 to 15 years		15	10	29	54
				27.8%	18.5%	53.7%	100.0%
	Total			16	15	40	71
				22.5%	21.1%	56.3%	100.0%
MURARAI	CHILD AGE	5 to 9 years		2	2	3	7
				28.6%	28.6%	42.9%	100.0%
		10 to 15 years		26	7	17	50
				52.0%	14.0%	34.0%	100.0%
	Total			28	9	20	57
				49.1%	15.8%	35.1%	100.0%

Source: Computed from Primary data analysis

In Rampurhat share of wage earner, domestic worker and agricultural labour are equal in age group of 5 to 9 years. Whereas more than 50% (52.3%) of the child labourers are wage earner in Rampurhat in 10 to 15 years of age group. But in Nalhati percentage share of agricultural labour are highest both in the age group of 5 to 9 years as well as 10 to 14 years of age group. In Murarai most of the child labour in age group of 5 to 9 years are actually agricultural labour (42.9%). Whereas more than 50% of child labourers are wage earner (52%) in 10 to 15 years of age group followed by agricultural labour (34%) and domestic worker (14%) in Murarai.

Chi-Square Tests			
BLOCK		Value	Asymp. Sig. (2-sided)
RAMPURHAT	Pearson Chi-Square	7.813[a]	.020
	Likelihood Ratio	7.330	.026
	Linear-by-Linear Association	.215	.643
	N of Valid Cases	65	
NALHATI	Pearson Chi-Square	3.755[b]	.153
	Likelihood Ratio	4.531	.104
	Linear-by-Linear Association	2.045	.153
	N of Valid Cases	71	
MURARAI	Pearson Chi-Square	1.649[c]	.438
	Likelihood Ratio	1.610	.447
	Linear-by-Linear Association	.765	.382
	N of Valid Cases	57	

5.8 BOY AND GIRL LABOUR IN DIFFERENT TYPE OF WORK IN STUDY AREA :-

Table 5.8

Boy and Girl Labour in different type of work in Birbhum, 2012-13

BLOCK				CHILD WORKER			Total
				Wage Earner	Domestic Worker	Agricultural Labour	
RAMPURHAT	SEX OF CHILD	MALE		18	0	16	34
				52.9%	.0%	47.1%	100.0%
		FEMALE		12	10	9	31
				38.7%	32.3%	29.0%	100.0%
	Total			30	10	25	65
				46.2%	15.4%	38.5%	100.0%
NALHATI	SEX OF CHILD	MALE		13	1	28	42
				31.0%	2.4%	66.7%	100.0%
		FEMALE		3	14	12	29
				10.3%	48.3%	41.4%	100.0%
	Total			16	15	40	71
				22.5%	21.1%	56.3%	100.0%
MURARAI	SEX OF	MALE		27	5	17	49

	CHILD			55.1%	10.2%	34.7%	100.0%
		FEMALE		1	4	3	8
				12.5%	50.0%	37.5%	100.0%
	Total			28	9	20	57
				49.1%	15.8%	35.1%	100.0%

Source: Computed from Primary data analysis

The above table explains the nature of work performed by child labourers across gender group. A brief look of the table reveals that domestic works are largely done by the girls whereas boys are mostly engaged in wage earning and work as agricultural labour. In Rampurhat not even a single boy is recorded to work as domestic worker. Most of the boy labourers are wage earner (52.9%) followed by agricultural labour (47.1%). Percentage share of wage earners (38.7%) are also highest in case of girl labourers in Rampurhat. In Nalhati most of the boy labourers are engaged as agricultural labour (66.7%) followed by wage earner (31%) and domestic worker (2.4%). But this is not same in case of girls, most of the girl labourers are engaged as domestic worker (48.3%) followed by agricultural labour (41.4%) and wage earner (10.3%). In Murarai, more than 50% boy labourers are wage earner (55.1%) followed by agricultural labour (34.7%) and domestic worker (10.2%). Totally different scenario could be visible in case of girl labour. They are largely engaged in domestic work (50%) followed by agricultural labour (37.5%) and wage earner (12.5%).

Chi-Square Tests

BLOCK		Value	Asymp. Sig. (2-sided)
RAMPURHAT	Pearson Chi-Square	13.049[a]	.001
	Likelihood Ratio	16.919	.000
	Linear-by-Linear Association	.027	.869
	N of Valid Cases	65	
NALHATI	Pearson Chi-Square	22.283[b]	.000
	Likelihood Ratio	24.374	.000
	Linear-by-Linear Association	.055	.815
	N of Valid Cases	71	
MURARAI	Pearson Chi-Square	9.454[c]	.009
	Likelihood Ratio	8.336	.015
	Linear-by-Linear	1.694	.193

	Association		
	N of Valid Cases	57	

5.9 CHILD LABOUR ACROSS DIFFERENT RELIGION IN STUDY AREA :-

Table 5.9

Child Labour across different Religion in Birbhum, 2012-13

BLOCK				CHILD AGE		Total
				5 to 9 years	10 to 15 years	
RAMPURHAT	RELIGION	HINDU		6	19	25
				24.0%	76.0%	100.0%
		MUSLIM		5	5	10
				50.0%	50.0%	100.0%
		OTHERS		10	20	30
				33.3%	66.7%	100.0%
	Total			21	44	65
				32.3%	67.7%	100.0%
NALHATI	RELIGION	HINDU		17	49	66
				25.8%	74.2%	100.0%
		MUSLIM		0	5	5
				.0%	100.0%	100.0%
	Total			17	54	71
				23.9%	76.1%	100.0%
MURARAI	RELIGION	HINDU		4	14	18
				22.2%	77.8%	100.0%
		MUSLIM		3	36	39
				7.7%	92.3%	100.0%
	Total			7	50	57
				12.3%	87.7%	100.0%

Source: Computed from Primary data analysis

Above table presents the child labour in different age group across different religion. Among Hindus child labourers are tended to have higher work participation rate in age group of 10 to 15 years (76%) compare to the 5 to 9 years of age group in Rampurhat. But same is not in case of Muslims. Percentage of child labour in both the age group is same (50%). Reason behind these could be higher school drop out rate among Muslims. Child labourers are high in age group of 10 to 15 years (66.7%)

among other religion in Rampurhat. In Nalhati child labourers in age group of 5 to 9 years is very less among Hindu (25.8%) compare to age group of 10 to 15 years (74.2%). 100% of child labourers are recorded in age group of 10 to 15 years among Muslims in Nalhati. Almost same scenario could be seen in Murarai where 22.2% of child labour in age group of 5 to 9 years and 77.8% of child labourers are recorded in age group of 10 to 15 years among Hindus. Only 7.7% child labourers are recorded in age group of 5 to 9 years and majority 92.3% of child labourers are seen in age group of 10 to 15 years among Muslims in Murarai.

Chi-Square Tests

BLOCK		Value	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
RAMPURHAT	Pearson Chi-Square	2.235[a]	.327		
	Likelihood Ratio	2.184	.336		
	Linear-by-Linear Association	.176	.675		
	N of Valid Cases	65			
NALHATI	Pearson Chi-Square	1.693[b]	.193		
	Continuity Correction[c]	.574	.449		
	Likelihood Ratio	2.854	.091		
	Fisher's Exact Test			.328	.243
	Linear-by-Linear Association	1.669	.196		
	N of Valid Cases	71			
MURARAI	Pearson Chi-Square	2.414[d]	.120		
	Continuity Correction[c]	1.253	.263		
	Likelihood Ratio	2.241	.134		
	Fisher's Exact Test			.191	.133
	Linear-by-Linear Association	2.371	.124		
	N of Valid Cases	57			

5.10 BOY AND GIRL LABOUR ACROSS DIFFERENT RELIGION IN STUDY AREA :-

Table 5.10

Boy and Girl Labour across different Religion in Birbhum, 2012-13

BLOCK				SEX OF CHILD		Total
				MALE	FEMALE	
RAMPURHAT	RELIGION	HINDU		15	10	25
				60.0%	40.0%	100.0%
		MUSLIM		4	6	10
				40.0%	60.0%	100.0%
		OTHERS		15	15	30
				50.0%	50.0%	100.0%
	Total			34	31	65
				52.3%	47.7%	100.0%
NALHATI	RELIGION	HINDU		37	29	66
				56.1%	43.9%	100.0%
		MUSLIM		5	0	5
				100.0%	.0%	100.0%
	Total			42	29	71
				59.2%	40.8%	100.0%
MURARAI	RELIGION	HINDU		16	2	18
				88.9%	11.1%	100.0%
		MUSLIM		33	6	39
				84.6%	15.4%	100.0%
	Total			49	8	57
				86.0%	14.0%	100.0%

Source: Computed from Primary data analysis

Above table presents the gender dimension of child labour across religious groups in three C.D. Blocks of Birbhum districts. Boy labourers (60%) are recorded higher than girl labourers (40%) in Rampurhat. Totally opposite inference can be drawn in case of Muslims. Girl labourers (60%) are recorded higher than boy labourers (40%). Among other religious group there is no such gender variation in child work participation. In Nalhati boy child labourers (56.1%) are recorded higher than girl labour (43.9%)

among Hindus. But boy labourers are recorded 100% and no girl labour is recorded among Muslims in sample survey. In Murarai boy labourers (88.9%) are recorded quite higher than girl labourers (11.1%) and almost same scenario could be seen in case of Muslims. Boy labourers (84.6%) are recorded higher than girl labourers (15.4%) among Muslims in Murarai. From all those analysis it could be said that there is a clear gender variation among child labourers and boy labourers are likely to be more than girl labourers across different C.D. Blocks except in among Muslims in Rampurhat.

Chi-Square Tests

BLOCK		Value	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
RAMPURHAT	Pearson Chi-Square	1.264[a]	.531		
	Likelihood Ratio	1.271	.530		
	Linear-by-Linear Association	.275	.600		
	N of Valid Cases	65			
NALHATI	Pearson Chi-Square	3.714[b]	.054		
	Continuity Correction[c]	2.118	.146		
	Likelihood Ratio	5.510	.019		
	Fisher's Exact Test			.074	.065
	Linear-by-Linear Association	3.662	.056		
	N of Valid Cases	71			
MURARAI	Pearson Chi-Square	.186[d]	.666		
	Continuity Correction[c]	.000	.983		
	Likelihood Ratio	.193	.660		
	Fisher's Exact Test			1.000	.507
	Linear-by-Linear Association	.183	.669		
	N of Valid Cases	57			

5.11 CHILD LABOUR IN DIFFERENT TYPE OF WORK ACROSS DIFFERENT RELIGION IN STUDY AREA:-

Table 5.11

Child Labour in different type of work across different Religion in Birbhum, 2012-13

BLOCK				CHILD WORKER			Total
				Wage Earner	Domestic Worker	Agricultural Labour	
RAMPURHAT	RELIGION	HINDU		5	3	17	25
				20.0%	12.0%	68.0%	100.0%
		MUSLIM		3	3	4	10
				30.0%	30.0%	40.0%	100.0%
		OTHERS		22	4	4	30
				73.3%	13.3%	13.3%	100.0%
	Total			30	10	25	65
				46.2%	15.4%	38.5%	100.0%
NALHATI	RELIGION	HINDU		13	15	38	66
				19.7%	22.7%	57.6%	100.0%
		MUSLIM		3	0	2	5
				60.0%	.0%	40.0%	100.0%
	Total			16	15	40	71
				22.5%	21.1%	56.3%	100.0%
MURARAI	RELIGION	HINDU		12	1	5	18
				66.7%	5.6%	27.8%	100.0%
		MUSLIM		16	8	15	39
				41.0%	20.5%	38.5%	100.0%
	Total			28	9	20	57
				49.1%	15.8%	35.1%	100.0%

Source: Computed from Primary data analysis

Above table presents the nature of work done by the child workers across different religious groups in different C.D.Blocks. In Rampurhat child labourers are more likely to be seen working as agricultural labourers (68%) followed by wage earner (20%) and domestic worker (12%) among Hindus. Among Muslims the scenario is a bit different. Agricultural labourers are recorded slightly higher (40%) compare to

domestic worker (30%) and wage earner (30%) in Rampurhat. Wage earning child labourers (73.3%) are quite higher than domestic worker (13.3%) and agricultural labour (13.3) among other religious group in Rampurhat. In Nalhati child labourers are more likely to be seen working as agricultural labourers (57.6%) followed by domestic workers (22.7%) and wage earners (19.7%) among Hindus. But among Muslims wage earning child labourers are recorded highest (60%) and rest of the child labourers are working as agricultural labourers (40%). No domestic working child labour is recorded among Muslims in Nalhati. Among Hindus most of the child labourers are wage earner (66.7%) in Murarai compare to Rampurhat and Nalhati. Among Muslims child labourers are more likely to be seen working as wage earner (41%) followed by agricultural labourers (38.5%) and domestic workers (20.5%) in Murarai.

Chi-Square Tests

BLOCK		Value	Asymp. Sig. (2-sided)
RAMPURHAT	Pearson Chi-Square	21.332[a]	.000
	Likelihood Ratio	22.011	.000
	Linear-by-Linear Association	18.958	.000
	N of Valid Cases	65	
NALHATI	Pearson Chi-Square	4.741[b]	.093
	Likelihood Ratio	4.848	.089
	Linear-by-Linear Association	2.276	.131
	N of Valid Cases	71	
MURARAI	Pearson Chi-Square	3.794[c]	.150
	Likelihood Ratio	4.081	.130
	Linear-by-Linear Association	1.941	.164
	N of Valid Cases	57	

5.12 CHILD LABOUR IN DIFFERENT AGE GROUP ACROSS SOCIAL GROUPS IN STUDY AREA:-

Table 5.12

Child Labour in different age group across Social Groups in Birbhum, 2012-13

BLOCK				CHILD AGE		Total
				5 to 9 years	10 to 15 years	
RAMPURHAT	SOCIAL GROUP	SC		6	18	24
				25.0%	75.0%	100.0%
		ST		10	20	30
				33.3%	66.7%	100.0%
		OBC		5	6	11
				45.5%	54.5%	100.0%
	Total			21	44	65
				32.3%	67.7%	100.0%
NALHATI	SOCIAL GROUP	GENERAL		3	10	13
				23.1%	76.9%	100.0%
		SC		13	38	51
				25.5%	74.5%	100.0%
		OBC		1	6	7
				14.3%	85.7%	100.0%
	Total			17	54	71
				23.9%	76.1%	100.0%
MURARAI	SOCIAL GROUP	GENERAL		1	5	6
				16.7%	83.3%	100.0%
		SC		4	11	15
				26.7%	73.3%	100.0%
		OBC		2	34	36
				5.6%	94.4%	100.0%
	Total			7	50	57
				12.3%	87.7%	100.0%

Source: Computed from Primary data analysis

Above table presents the scenario of child labour in different age group across different social groups in different C.D. Blocks. In Rampurhat among SCs child labourers are seen more in age group of 10 to 15 years (75%) compare to 5 to 9 years age group (25%). Almost similar inference could be drawn for STs as well. Among

STs 66.7% child labourers are in age group of 10 to 15 years compare to 33.3% child labourers in age group of 5 to 9 years in Rampurhat. Among OBCs the gap between this age group is quite less. 54.5% of child labourers are recorded in age group of 10 to 15 years and 45.5% child labourers are recorded in 5 to 9 years of age group among OBCs in Rampurhat. In Nalhati across different social groups child labourers are recorded higher in age group of 10 to 15 years compare to 5 to 9 years age group. Percentage of Child labourers among General, SCs and OBCs are as following 76.9%, 74.5% and 85.7%. In Murarai child labourers are recorded higher in age group of 10 to 15 years compare to 5 to 9 years age group across different social groups as well as compare to child labourers in 10 to 15 years age group in Rampurhat and Nalhati (except SCs). Percentage of child labourers in age group of 10 to 15 years among General, SCs and OBCs are as following 83.3%, 73.3% and 94.4%.

Chi-Square Tests

BLOCK		Value	Asymp. Sig. (2-sided)
RAMPURHAT	Pearson Chi-Square	1.470[a]	.480
	Likelihood Ratio	1.451	.484
	Linear-by-Linear Association	1.423	.233
	N of Valid Cases	65	
NALHATI	Pearson Chi-Square	.431[b]	.806
	Likelihood Ratio	.473	.789
	Linear-by-Linear Association	.203	.652
	N of Valid Cases	71	
MURARAI	Pearson Chi-Square	4.500[c]	.105
	Likelihood Ratio	4.210	.122
	Linear-by-Linear Association	3.231	.072
	N of Valid Cases	57	

5.13 Boy and Girl Labour across Social Groups in Study Area:-

Table 5.13

Boy and Girl Labour across Social Groups in Birbhum, 2012-13

BLOCK				SEX OF CHILD		Total
				MALE	FEMALE	
RAMPURHAT	SOCIAL GROUP	SC		15	9	24
				62.5%	37.5%	100.0%
		ST		15	15	30
				50.0%	50.0%	100.0%
		OBC		4	7	11
				36.4%	63.6%	100.0%
	Total			34	31	65
				52.3%	47.7%	100.0%
NALHATI	SOCIAL GROUP	GENERAL		6	7	13
				46.2%	53.8%	100.0%
		SC		29	22	51
				56.9%	43.1%	100.0%
		OBC		7	0	7
				100.0%	.0%	100.0%
	Total			42	29	71
				59.2%	40.8%	100.0%
MURARAI	SOCIAL GROUP	GENERAL		5	1	6
				83.3%	16.7%	100.0%
		SC		13	2	15
				86.7%	13.3%	100.0%
		OBC		31	5	36
				86.1%	13.9%	100.0%
	Total			49	8	57
				86.0%	14.0%	100.0%

Source: Computed from Primary data analysis

Gender dimension of child labourers across different social groups is shown through the above table. Among SCs boy labourers are recorded higher than girl labourers in all the C.D. Blocks and highest (86.7%) recorded in Murarai. Boy and girl labourers

are recorded equal (50% each) among STs in Rampurhat. Gender dimension of child labour is a bit different among OBCs specially in Rampurhat where girl labourers (63.6%) are recorded higher compare to boy labourers (36.4%). But in Nalhati no girl labour is recorded. In Murarai 86.1% are boy labourers and rest are girl labourers. In case of Generals percentage boy and girl labourers are almost same 46.2% and 53.8% respectively in Nalhati. But in Murarai boy labourers (83.3%) are higher than girl labourers (16.7%) among Generals.

Chi-Square Tests

BLOCK		Value	Asymp. Sig. (2-sided)
RAMPURHAT	Pearson Chi-Square	2.184[a]	.335
	Likelihood Ratio	2.206	.332
	Linear-by-Linear Association	2.149	.143
	N of Valid Cases	65	
NALHATI	Pearson Chi-Square	5.854[b]	.054
	Likelihood Ratio	8.351	.015
	Linear-by-Linear Association	5.464	.019
	N of Valid Cases	71	
MURARAI	Pearson Chi-Square	.041[c]	.980
	Likelihood Ratio	.040	.980
	Linear-by-Linear Association	.008	.930
	N of Valid Cases	57	

5.14 CHILD LABOUR IN DIFFERENT TYPE OF WORK ACROSS SOCIAL GROUPS IN STUDY AREA:-

Table 5.14

Child Labour in different type of work across Social Groups in Birbhum, 2012-13

SOCIAL GROUP * CHILD WORKER * BLOCK Crosstabulation

BLOCK				CHILD WORKER			Total
				Wage Earner	Domestic Worker	Agricultural Labour	
RAMPURHAT	SOCIAL GROUP	SC		5	2	17	24
				20.8%	8.3%	70.8%	100.0%
		ST		22	4	4	30

				73.3%	13.3%	13.3%	100.0%
		OBC		3	4	4	11
				27.3%	36.4%	36.4%	100.0%
	Total			30	10	25	65
				46.2%	15.4%	38.5%	100.0%
NALHATI	SOCIAL GROUP	GENERAL		0	3	10	13
				.0%	23.1%	76.9%	100.0%
		SC		11	12	28	51
				21.6%	23.5%	54.9%	100.0%
		OBC		5	0	2	7
				71.4%	.0%	28.6%	100.0%
	Total			16	15	40	71
				22.5%	21.1%	56.3%	100.0%
MURARAI	SOCIAL GROUP	GENERAL		0	0	6	6
				.0%	.0%	100.0%	100.0%
		SC		10	1	4	15
				66.7%	6.7%	26.7%	100.0%
		OBC		18	8	10	36
				50.0%	22.2%	27.8%	100.0%
	Total			28	9	20	57
				49.1%	15.8%	35.1%	100.0%

Nature of work done by child labourers across different social groups in different C.D. Blocks is shown through the above table. In Rampurhat and Nalhati child labourers are more likely to be seen working as agricultural labourers among SCs. But wage earning child labourers are higher (66.7%) among SCs in Murarai. Among STs most of the working children are wage earner (73.3%) because of the presence of stone crushing units work as pull factor for the children and high school drop out among STs working as push factor in Chandpur. Among OBCs domestic worker and agricultural labourers (36.4% each) are recorded higher than wage earners in Rampurhat. In Nalhati no child labour is recorded working as domestic worker. Most of the child labourers are recorded working as wage earner (71.4%) compare agricultural labourers (28.6%) in Nalhati. In Murarai 50% of child labourers are recorded working as wage earners followed by agricultural labourers (27.8%) and domestic workers (22.2%). Among Generals no wage earner is recorded in Nalhati. 76.9% of child labourers are working as agricultural labourers and 23.1% is recorded

working as domestic worker in Nalhati among Generals. In Murarai no child labour is recorded working as wage earner and domestic worker among Generals.

Chi-Square Tests			
BLOCK		Value	Asymp. Sig. (2-sided)
RAMPURHAT	Pearson Chi-Square	24.467[a]	.000
	Likelihood Ratio	24.386	.000
	Linear-by-Linear Association	5.208	.022
	N of Valid Cases	65	
NALHATI	Pearson Chi-Square	13.972[b]	.007
	Likelihood Ratio	15.753	.003
	Linear-by-Linear Association	9.520	.002
	N of Valid Cases	71	
MURARAI	Pearson Chi-Square	14.631[c]	.006
	Likelihood Ratio	16.188	.003
	Linear-by-Linear Association	2.634	.105
	N of Valid Cases	57	

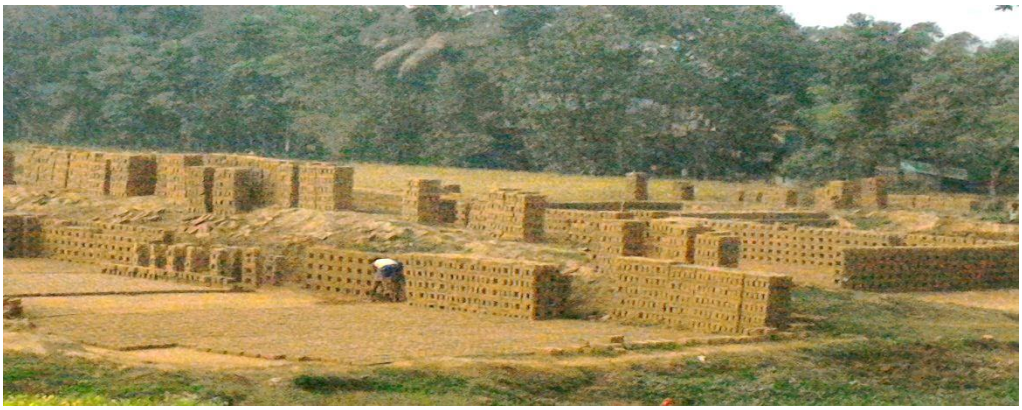


Photo: A child labour engaged in brick kiln near Palsa village of Murarai Block

Photo: A cave formed due to stone crushing in Chandpur village of Rampurhat Block

Photo: A pond formed due to the use of mud for making earthen pot and brick kiln in Palsa village of Murarai block

5.15 FINDINGS:-

C.D. Block wise analysis explains that presence of child labour largely determined by the push and pull factor in the region. For example in Chandpur child labourers are largely recorded among ST population. They are largely engaged in stone crushing units which are working like pull factor. Poor economic condition works as pull factor. These many uneducated children perpetuate unending supply of child labour.

Child labour concentrated in Chandpur due to the presence of many stone crushing units. Those units employ children just to earn profit. Children are preferred as they

lack unionisation and are very docile. They hardly paid for long laborious stone crushing activities. A full tractor stone crushing helps them just earn Rs. 600 only.

In Ramrmpur people from lower caste largely dwell outskirt the village. Child labourers are actually concentrated to that part of the villages. Self employed children are largely visible working as painter or electrician or agricultural labour. Presence of rice mill around the area help many children find some work specially those who dropped out.

Child labourers are largely found among lower caste people. Most of them are agricultural labour in Tejhati. Most of the child labourers are agricultural labour followed by domestic worker and wage earner in Harisara.

In Duria village of Murari Most of the child labourers are agricultural labour and very less are wage earner and domestic worker. Seasonal mobility is very high among poor people. Food security is largely seasonal among poor people as they struggle to find work during time of monsoon season. In Palsa village of Murarai block mostly child labourers are engaged in earthen pot making or brick kiln.

CHAPTER 6

MICRO LEVEL SCENARIO OF FOOD SECURITY

6.1 INTRODUCTION:-

A statistical method known as Principal Component Analysis (PCA) can transform correlated variables into orthogonal or uncorrelated variables. The orthogonal variables thus obtained are called the Principal Components.

The basic idea behind PCA is simple. It groups the correlated variables into sub-groups so that variables belonging to any group have a "common" factor that moves them together. This common factor may be skill, ability, intelligence, ethnicity, or any such factor. That common factor which is not always easy to identify is what we call a principal component.

Terminology related to PCA

Eigen value represents the amount of variance accounted for by a component and Eigen vector (loading) tells us the weight of the component for each variable. It represents the correlation between a variable and component. Communality is the sum of squared eigenvalues for all components for a given variable. It tells us the proportion of each variable's variance that can be explained by all the components jointly. If the communality for a variance is less than 50% then it is a candidate for exclusion from the analysis because the factor solution contains less than half of the variance in the original variable and the explanatory power of that variable might be better represented by the individual variable.

Determining the Number of components

1. Eigenvalues over 1. Drop all the components with Eigen value under 1.0.
   This is because each observed variable contributes one unit of variance to the total variance in the data set. Any component that displays an Eigen value greater than 1.0 is accounting for a greater amount of variance than was contributed by one variable. Such a component is therefore accounting for a meaningful amount of variance and is worthy of being retained. On the other hand, a component with an eigenvalue less than 1.0 is accounting for less variance than has been contributed by one variable.
2. Scree-plots Eigen value where curvature changes.

3. Retain enough components to explain some cumulative total percent of variance, usually 70% to 80%.

6.2 PRINCIPAL COMPONENT ANALYSIS OF FOOD AVAILABILITY IN STUDY AREA:-

Descriptive Statistics

	Mean	Std. Deviation	Analysis N	Missing N
Household owning land	.00091	1.000815	447	0
Land holding size	.00018	1.000678	447	0
Amount of cultivated land	.00024	1.000652	447	0
Amount of irrigated land	.00056	1.001188	447	0
Yield of rabi crop per acre	.00000	1.000000	447	0
Yield of kharif crop per acre	.00000	1.000001	447	0
Yield of Zaid crop per acre	.00000	1.001116	447	0

Table 6.1
Total Variance Explained in PCA for Food Availability Indicators in Birbhum, 2012-13

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.180	59.709	59.709	4.180	59.709	59.709	4.026	57.510	57.510
2	1.045	14.931	74.640	1.045	14.931	74.640	1.199	17.130	74.640
3	.894	12.769	87.409						
4	.435	6.216	93.625						
5	.276	3.948	97.573						
6	.118	1.693	99.266						
7	.051	.734	100.000						

Extraction Method: Principal Component Analysis.

Source: Computed from Primary data analysis

The above table gives the estimated 7 PCs. The first principal component has a variance (=Eigenvalue) of 4.180 and accounts for 60% of the total variation in all the regressors. The second principal component has a variance of 1.045 and accounting for 15% of the total variation in all regressors. These two PCs account for 75% of the total variation. So, only two seems to be quantitatively important.

Component Matrix[a]

	Component	
	1	2
Household owning land	.795	.017
Land holding size	.892	-.034
Amount of cultivated land	.918	-.048
Amount of irrigated land	.911	-.007
Yield of rabi crop per acre	.763	-.427
Yield of kharif crop per acre	.618	.135
Yield of Zaid crop per acre	.338	.917

Extraction Method: Principal Component Analysis.

a. 2 components extracted.

Rotated Component Matrix[a]

	Component	
	1	2
Household owning land	.771	.192
Land holding size	.877	.164
Amount of cultivated land	.906	.156
Amount of irrigated land	.890	.195
Yield of rabi crop per acre	.839	-.247
Yield of kharif crop per acre	.573	.269
Yield of Zaid crop per acre	.127	.969

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 3 iterations.

Table 6.2

Eigen Values and Weightage for different Food Availability Indicators in Birbhum, 2012-13

Rotated Component Matrix[a]

	Component		EIGEN VALUES		
	1	2	4.18	1.045	
Household owning land	.771	.192	3.22339	0.200927	3.424317
Land holding size	.877	.164	3.665943	0.171617	3.837559
Amount of cultivated land	.906	.156	3.788432	0.163298	3.95173
Amount of irrigated land	.890	.195	3.721143	0.203934	3.925077
Yield of rabi crop per acre	.839	-.247	3.505873	-0.25815	3.247725
Yield of kharif crop per acre	.573	.269	2.395358	0.280646	2.676005
Yield of Zaid crop per acre	.127	.969	0.530141	1.012906	1.543047
					22.60546

Source: Computed from Primary data analysis

Rotated component matrix sometimes referred to as the loadings. It is the key output of principal components analysis. It contains estimates of the correlations between each of the correlations between each of the variables and estimates components.
There are moderate to strong correlations between the seven indicators of food availability and component 1.

The correlation between the yield of Zaid crop per acre and first component are very low. When interpreting a component matrix, correlations of less than 0.3 or 0.4 are regarded as being trivial. The correlations can also be negative and in such an instance correlations between -0.4 or -0.3 and 0.0 are regarded as being trivially small.

Thus the first component seems to measure propensity to higher food security among households having higher cultivated land followed by size of amount of irrigated land, land holding, yield of rabi crop per acre, household owning land and yield of kharif crop per acre.

There are moderate to strong correlations between the seven indicators of food security and component 2. The second component seems to have higher correlation with yield of zaid crop and kharif crop per acre.

Estimation of the weightage of seven indicators of food availability can be done by multiplying eigen value more than 1 with respective rotated component matrix and then by adding row wise respectively. On the basis of weightage the inference could be drawn that the highest weightage is assigned to the indicator of amount of the cultivated land to measure the level of household food availability which is a vital dimension of household food. Security.

6.3 PRINCIPAL COMPONENT ANALYSIS OF FOOD ACCESSIBILITY IN STUDY AREA:-

Descriptive Statistics

	Mean	Std. Deviation	Analysis N	Missing N
Non SC/ST household	.00040	1.002205	447	0
Percentage of working people in household	.00229	1.002550	447	0
Per day per capita Kcal consumption	-.00167	1.000001	447	0
Mother's education level	.00006	1.000120	447	0
Household monthly per capita expenditure	.00000	1.000001	447	0
Non BPL household	.00125	1.001308	447	0

Table 6.3

Total Variance Explained in PCA for Food Accessibility Indicators in Birbhum, 2012-13

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.000	33.335	33.335	2.000	33.335	33.335	1.909	31.809	31.809
2	1.507	25.123	58.457	1.507	25.123	58.457	1.599	26.648	58.457
3	.976	16.268	74.725						
4	.668	11.141	85.866						
5	.589	9.816	95.683						

6	.259	4.317	100.000						

Extraction Method: Principal Component Analysis.

The above table gives the estimated 6 PCs for indicators to measure food accessibility. The first principal component has a variance (=Eigenvalue) of 2.000 and accounts for 33% of the total variation in all the regressors. The second principal component has a variance of 1.507 and accounting for 25% of the total variation in all regressors. These two PCs account for 58% of the total variation. So, only two seems to be quantitatively important.

Component Matrix[a]

	Component	
	1	2
Non SC/ST household	.293	.754
Percentage of working people in household	-.431	.156
Per day per capita Kcal consumption	.755	-.330
Mother's education level	.622	.366
Household monthly per capita expenditure	.824	-.418
Non BPL household	.302	.705

Extraction Method: Principal Component Analysis.

a. 2 components extracted.

Rotated Component Matrix[a]

	Component	
	1	2
Non SC/ST household	-.061	.806
Percentage of working people in household	-.456	-.045
Per day per capita Kcal consumption	.824	.028
Mother's education level	.404	.599
Household monthly per capita expenditure	.924	-.022

Non BPL household	-.031	.766

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 3 iterations.

Rotated component matrix sometimes referred to as the loadings. It is the key output of principal components analysis. It contains estimates of the correlations between each of the correlations between each of the variables and estimates components.
There are moderate to strong correlations between the seven indicators of food accessibility and component 1.

The correlation between the non BPL household and first component are very low. When interpreting a component matrix, correlations of less than 0.3 or 0.4 are regarded as being trivial. The correlations can also be negative and in such an instance correlations between -0.4 or -0.3 and 0.0 are regarded as being trivially small. Percentage working population in household and non SC/ST household have very low correlation with first component.

Thus the first component seems to measure propensity to higher food security (food accessibility) among households having higher household monthly per capita expenditure and higher per day per capita calorie consumption.

There are moderate to strong correlations between the six indicators of food security (Food Accessibility) and component 2. The second component seems to have higher correlation with non SC/ST household (.806) and non BPL household (.766).

Estimation of the weightage of six indicators of food accessibility can be done by multiplying eigen value more than 1 with respective rotated component matrix and then by adding row wise respectively. On the basis of weightage the inference could be drawn that the highest weightage is assigned to the household monthly per capita expenditure followed by mother's education level, per day per capita kcal consumption, non SC/ST household and non BPL household to measure the level of household food accessibility which is a vital dimension of household food security.

Table 6.4

Eigen Values and Weightage for different Food Accessibility Indicators in Birbhum, 2012-13

Rotated Component Matrix[a]

	Component		EIGEN VALUES		
	1	2	2	1.507	
Non SC/ST household	-0.061	0.806	-0.122	1.214642	1.092642
Percentage of working people in household	-0.456	-0.045	-0.912	-0.06782	-0.97982
Per day per capita Kcal consumption	0.824	0.028	1.648	0.042196	1.690196
Mother's education level	0.404	0.599	0.808	0.902693	1.710693
Household monthly per capita expenditure	0.924	-0.022	1.848	-0.03315	1.814846
Non BPL household	-0.031	0.766	-0.062	1.154362	1.092362
					6.420924

Source: Computed from Primary data analysis

6.4 PRINCIPAL COMPONENT ANALYSIS OF FOOD UTILIZATION INDICATORS IN STUDY AREA:-

Descriptive Statistics

	Mean	Std. Deviation	Analysis N	Missing N
Household having separate kitchen	.00212	1.000490	447	0
Access to safe drinking water	.00215	1.002205	447	0
Household having motorcycle	.00361	1.004710	447	0
Household having bycyle	.00244	1.001517	447	0
Household having bullock cart	.00198	1.002059	447	0
Household having mobile	.00053	1.001425	447	0
Having cow	.00016	1.000928	447	0
Having buffalo	.00170	1.002677	447	0

Table 6.5

Total Variance Explained in PCA for Food Utilization Indicators in Birbhum,

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.225	27.819	27.819	2.225	27.819	27.819	1.947	24.334	24.334
2	1.361	17.018	44.836	1.361	17.018	44.836	1.619	20.233	44.567
3	1.039	12.984	57.820	1.039	12.984	57.820	1.060	13.252	57.820
4	.995	12.432	70.252						
5	.847	10.583	80.835						
6	.671	8.388	89.223						
7	.550	6.871	96.094						
8	.312	3.906	100.000						

Extraction Method: Principal Component Analysis.

The above table gives the estimated 8 PCs for indicators to measure food utilization. The first principal component has a variance (=Eigenvalue) of 2.225 and accounts for 28% of the total variation in all the regressors. The second principal component has a variance of 1.361 and accounting for 17%% of the total variation in all regressors. The third principal component has a variance of 1.039 and accounting for 13% of the total variation in all regressors. These three PCs account for 58% of the total variation. So, only three components seem to be quantitatively important.

Component Matrix[a]

	Component		
	1	2	3
Household having separate kitchen	.395	.578	-.085
Access to safe drinking water	.026	.308	.881
Household having motorcycle	.157	.446	.006

Household having bycyle	.531	.281	-.376
Household having bullock cart	.806	-.306	.074
Household having mobile	.556	.489	.058
Having cow	.767	-.363	-.041
Having buffalo	.464	-.436	.321

Extraction Method: Principal Component Analysis.

a. 3 components extracted.

Rotated Component Matrix[a]

	Component		
	1	2	3
Household having separate kitchen	.008	.705	.014
Access to safe drinking water	.018	.142	.923
Household having motorcycle	-.104	.452	.091
Household having bycyle	.225	.578	-.344
Household having bullock cart	.844	.183	-.054
Household having mobile	.214	.701	.123
Having cow	.821	.131	-.175
Having buffalo	.672	-.147	.184

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 4 iterations.

Table 6.6
Eigen Values and Weightage for different Food Utilization Indicators in Birbhum, 2012-13

Rotated Component Matrix[a]

	Component			EIGEN VALUES			
	1	2	3	2.225	1.361	1.039	
Household having separate kitchen	.008	.705	.014	0.017822	0.959046	0.014881	0.991749
Access to safe drinking water	.018	.142	.923	0.040242	0.193376	0.958498	1.192116
Household having motorcycle	-.104	.452	.091	-0.23162	0.615709	0.094836	0.478927
Household having bicycle	.225	.578	-.344	0.499829	0.786316	-0.3574	0.928747

Household having bullock cart	.844	.183	-.054	1.877981	0.249271	-0.05561	2.071638
Household having mobile	.214	.701	.123	0.477258	0.953713	0.127449	1.55842
Having cow	.821	.131	-.175	1.827585	0.17856	-0.18155	1.82459
Having buffalo	.672	-.147	.184	1.495843	-0.20029	0.191161	1.486713
							10.5329

Rotated component matrix sometimes referred to as the loadings. It is the key output of principal components analysis. It contains estimates of the correlations between each of the correlations between each of the variables and estimates components.
There are moderate to strong correlations between the seven indicators of food utilization and component 1.

The correlation between the household having motocycle, presence of separate kitchen and acess to safe drinking water with first component are very low. When interpreting a component matrix, correlations of less than 0.3 or 0.4 are regarded as being trivial. The correlations can also be negative and in such an instance correlations between -0.4 or -0.3 and 0.0 are regarded as being trivially small.

Thus the first component seems to measure propensity to higher food security (food utilization) among households having higher household having bullock cart (.844) which is movable asset and household having cow (.821) which is regarded as one of the most important asset of household in rural area.

There are moderate to strong correlations between the eight indicators of food security (Food Utilization) and component 2. The second component seems to have higher correlation with household having separate kitchen (.705).

There are moderate to strong correlations between the eight indicators of food security (Food Utilization) and component 3. The third component seems to have higher correlation with household having access to safe drinking water (.923).

Estimation of the weightage of eight indicators of food utilization can be done by multiplying eigen value more than 1 with respective rotated component matrix and then by adding row wise respectively. On the basis of weightage the inference could

be drawn that the highest weightage is assigned to the household having bullock cart followed by household having cow, having mobile, having buffalo and household having access to safe drinking water to measure the level of household food utilization which is a vital dimension of household food security.

6.5 HOUSEHOLDS ACROSS DIFFERENT CLASS OF FOOD AVAILABILITY INDEX IN STUDY AREA

Table 6.7
Households across different class of Food Availability Index in Birbhum, 2012-13

Total

class	No. of HH	percentage of HH
less than -4	**208**	**46.53**
-4 to -2	7	1.57
-2 to 0	17	3.8
0 to- 2	21	4.7
2 to 4	58	12.98
4 to 6	71	15.88
6.1 & above	65	14.54
Total	447	

Source: Computed from Primary data analysis

Above table presents the scenario of percentage of household across different classes of food availability index in three C.D. Blocks of Birbhum district. Food availability index is calculated considering seven indicators which are as following household owning land, land holding size, amount of cultivated land, amount of irrigated land, per acre yield of rabi crop, per acre yield of kharif crop and per acre yield of zaid crop. We could see almost 50% (46.53%) of household is recorded in the class of less than -4. It clearly depicts the poor condition of households on the front of food availability. As we came to know from PCA that the amount of cultivated land, amount of irrigated land and land holding size have significant effect of food security (availability). It could be concluded that food insecure households score significantly less on this indicators.

Table 6.8
Households across different class of Food Availability Index in Rampurhat, 2012-13

class	No. of HH	percentage of HH
less than -4	**100**	**67.11**
-4 to -2	2	1.34
-2 to 0	6	4.03
0 to 2	15	10.07
2 to 4	12	8.05
4 to 6	7	4.7
6.1 & above	7	4.7
Total	149	

Source: Computed from Primary data analysis

Above table presents the scenario of percentage of household recorded across different classes of food availability index in Rampurhat block. The inference could be drawn that the more than 50% (67.11%) households score very less on front of food availability index. Rampurhat block recorded relatively poorer on the scale of food availability index compare to Nalhati and Murarai. Most of the households which scored less than -4 on food availability indexes are actually belong to Chandpur village which is largely populated by ST people.

Table 6.9
Households across different class of Food Availability Index in Nalhati, 2012-13

class	No. of HH	percentage of HH
less than -4	**47**	**32.41**
-4 to -2	3	2.07
-2 to 0	1	0.69
0 to 2	6	4.14
2 to 4	25	17.24
4 to 6	27	18.62
6.1 & above	36	24.83
Total	145	

Source: Computed from Primary data analysis

Among all the three C.D. Blocks, Nalhati is recorded to have lowest percentage of household in less than -4 index value class. Only 32.41% household scored less than -4 compare to Rampurhat (67.11%) and Murarai (39.87%). Not only that but also highest percentage of household is also recorded in the class of index value 6.1 and above. It could be concluded that among all the blocks Nalhati scored highest on front of food availability.

Table 6.10
Households across different class of Food Availability Index in Murarai, 2012-13

class	No. of HH	percentage of HH
less than -4	**61**	**39.87**
-4 to -2	2	1.31
-2 to 0	10	6.54
0 to 2	0	0
2 to 4	21	13.73
4 to 6	37	24.18
6.1 & above	22	14.38
Total	153	

Source: Computed from Primary data analysis

Above table presents the scenario of percentage of household across different class of food availability index in Murarai block. Murarai is recorded 39.87% household in less than -4 class and almost 50% household recorded more than 2 index value class. Murarai scored better than Rampurhat on food availability front but scored poorer compare to Nalhati.

6.6 HOUSEHOLDS ACROSS DIFFERENT CLASS OF FOOD ACCESSIBILITY INDEX IN STUDY AREA

Table 6.11
Households across different class of Food Accessibility Index in Birbhum, 2012-13

class	No. of HH	percentage of HH
less than -4	**27**	**6.04**
-4 to -2	110	24.61
-2 to 0	111	24.83
0 to 2	88	19.69
2 to 4	63	14.09
4 to 6	30	6.71
above 6	18	4.03
Total	447	

Source: Computed from Primary data analysis

Above table presents the scenario of percentage of household across different classes of food accessibility index in three C.D. Blocks of Birbhum district. Food accessibility index is calculated considering six indicators which are as following non SC/ST household, percentage of working people in household, per day per capita Kcal consumption, Mothers education level, Household monthly per capita expenditure and non BPL households. We could see more than 50% of household is recorded in the class of less than 0. It clearly depicts the poor condition of households on the front of food accessibility. As we came to know from PCA that the per day per capita Kcal consumption and household monthly per capita expenditure have significant effect of food security (availability). It could be concluded that food insecure households score significantly less on these food accessibility indicators.

Table 6.12
Households across different class of Food Accessibility Index in Rampurhat, 2012-13

class	No. of HH	percentage of HH
less than -4	**13**	**8.72**
-4 to- 2	37	24.83
-2 to 0	36	24.16
0 to 2	24	16.11
2 to 4	17	11.41
4 to 6	11	7.38
above 6	11	7.38
Total	149	

Source: Computed from Primary data analysis

Above table helps to understand the distribution of households in different classes on the front of food accessibility indexes. It is almost similar to the previous table which presents the overall scenario of the three C.D. Blocks. Among the three C.D. Blocks Rampurhat recorded worst as 8.72% household comes in the class of less than -4. 24.83% and 24.16% recorded in class of -4 to -2 and -2 to 0 respectively.

Table 6.13
Households across different class of Food Accessibility Index in Nalhati, 2012-13

class	No. of HH	percentage of HH
less than -4	**4**	**2.76**
-4 to -2	27	18.62
-2 to 0	42	28.97
0 to 2	32	22.07
2 to 4	23	15.86
4 to 6	10	6.9
above 6	7	4.83
Total	145	

Source: Computed from Primary data analysis

Nalhati is relatively better than other two C.D. Blocks on the front of food accessibility index. Only 2.76% and 18.62% of household recorded in the class of less than -4 and -4 to -2 respectively. Most of the households in Nalhati scored really well in food accessibility indicators of per day per capita Kcal consumption and monthly per capita expenditure. Household across different classes of food accessibility index in Murarai clearly indicates that it is somehow similar to Rampurhat. No Household recorded in class of above 6 and almost 75% household recorded less than 2 class in food accessibility index.

Table 6.14
Households across different class of Food Accessibility Index in Murarai, 2012-13

class	No. of HH	percentage of HH
less than -4	**10**	**6.54**
-4 to -2	46	30.07
-2 to 0	33	21.57
0 to 2	32	20.92
2 to 4	23	15.03
4 to 6	9	5.88
above 6	0	0
	153	

Source: Computed from Primary data analysis

6.7 HOUSEHOLDS ACROSS DIFFERENT CLASS OF FOOD UTILIZATION INDEX IN STUDY AREA

Table 6.15

Households across different class Food Utilization Index in Birbhum, 2012-13

class	No. of HH	percentage of HH
less than -20	**19**	**4.25**
-20 to -10	103	23.04
-10 to 0	146	32.66
0 to 10	78	17.45
10 to 20	47	10.51
20 to 30	37	8.28
above 30	17	3.8
Total	447	

Source: Computed from Primary data analysis

Above table presents the scenario of households across different class of food utilization index. Food utilization index is calculated using different indictors of asset index, housing index, property index and health index. Indicators used to calculate food utilization index are as following; household having separate kitchen, access to safe drinking water, households having motorcycle, cycle, bullock cart, mobile phone, cow, buffalo, different indicators of housing structure etc. For all the three C.D. Blocks 4.25% household recorded in class of less than -20 on the front of food utilization index. 23.04% and 32.66% recorded in class of -20 to -10 and -10 to 0 class respectively. It clearly depicts the severe food security condition of Birbhum district.

Table 6.16

Households across different class of Food Utilization in Rampurhat, 2012-13

class	No. of HH	percentage of HH
less than -20	**12**	**8.05**
-20 to -10	45	30.2
-10 to 0	26	17.45
0 to 10	26	17.45
10 to 20	15	10.07
20 to 30	16	10.74
above 30	9	6.04
Total	149	

Source: Computed from Primary data analysis

Above table presents the food utilization condition of households in Rampurhat block. Among all the blocks Rampurhat recorded highest percentage of household in less than -20 class as well as in -20 to -10 class. It clearly depicts the severe food security condition of household in food utilization dimension. Though highest percentage of household could be seen in above 30 class but gap is very less with respect to the other C.D. Blocks.

Table 6.17

Households across different class of Food Utilization in Nalhati, 2012-13

class	No. of HH	percentage of HH
less than -20	**6**	**4.14**
-20 to -10	36	24.83
-10 to 0	40	27.59
0 to 10	31	21.38
10 to 20	15	10.34
20 to 30	11	7.59
above 30	6	4.14
Total	145	

Source: Computed from Primary data analysis

Above table presents the scenario of food utilization condition of households across different class in Nalhati. Significantly less number of household (4.14%) recorded in lowest class (less than -20). 24.83% household recorded in class of -20 to -10 which is better compare to Rampurhat. In Nalhati highest percentage of household recorded in class of -10 to 0. In Murarai most of the households come in the class of -10 to 0. Murarai is recorded worst among all the C.D. Blocks on front of food utilization.

Table 6.18

Households across different class of Food Utilization in Murarai, 2012-13

class	No. of HH	percentage of HH
less than -20	**1**	**0.65**
-20 to -10	22	14.38
-10 to 0	80	52.29
0 to 10	21	13.73

10 to 20	17	11.11
20 to 30	10	6.54
above 30	2	1.31
Total	153	

Source: Computed from Primary data analysis

6.8 HOUSEHOLDS ACROSS DIFFERENT CLASS OF COMPOSITE INDEX OF FOOD SECURITY IN STUDY AREA

Total composite index of food security is calculated by adding up all the three dimension of food security that is the index of food availability, food accessibility and food utilization. The total composite index of food security helps us to understand the overall household food security scenario in Birbhum district. Calculated index values are classified into different classes and corresponding percentage of household falling in those classes capture the clear picture of food security condition.

From the above analysis it could be said that though out all the three dimension of food security index, Nalhati scored relatively better than Rampurhat and Murarai. Rampurhat scored worst among all the three C.D. Blocks in Birbhum district.

Table 6.19

Households across different class of Composite Index of Food Security in Birbhum, 2012-13

class	No. of HH	percentage of HH
less than -20	**64**	**14.32**
-20 to -10	91	20.36
-10 to 0	99	22.15
0 to 10	64	14.32
10 to 20	60	13.42
20 to 30	28	6.26
above 30	41	9.17
Total	447	

Source: Computed from Primary data analysis

Above table presents the total composite food security scenario of households in Birbhum district. Only 14.32% household recorded in lowest class. Rampurhat recorded worst as 28.19% household in Rampurhat fall in the lowest level class of composite food index.

Table 6.20

Households across different class of Composite Index of Food Security in Rampurhat, 2012-13

class	No. of HH	percentage of HH
less than -20	**42**	**28.19**
-20 to -10	21	14.09
-10 to 0	28	18.79
0 to 10	16	10.74
10 to 20	13	8.72
20 to 30	15	10.07
above 30	14	9.4
Total	149	

Source: Computed from Primary data analysis

Shrikrishnapur Pakhuria

class	No. of HH	percentage of HH
less than -20	**3**	**6.67**
-20 to -10	9	20
-10 to 0	8	17.78
0 to 10	7	15.56
10 to 20	5	11.11
20 to 30	7	15.56
above 30	6	13.33
Total	45	

Source: Computed from Primary data analysis

Ramrampur

class	No. of HH	percentage of HH
less than -20	**6**	**11.11**
-20 to -10	3	5.56
-10 to 0	18	33.33
0 to 10	6	11.11
10 to 20	6	11.11
20 to 30	8	14.81
above 30	7	12.96
Total	54	

Source: Computed from Primary data analysis

Chandpur

class	No. of HH	percentage of HH
less than -20	**33**	**66**
-20 to -10	9	18
-10 to 0	2	4
0 to 10	3	6
10 to 20	2	4
20 to 30	0	0
above 30	1	2
Total	50	

Source: Computed from Primary data analysis

If we compare three villages of Rampurhat, it clearly shows that Chandpur recorded worst among all. 66% of household come within the lowest class (less than -20) of composite food security index and percentage getting lower with the increase of index value. Shrikrishnapur Pakhuria scored better than Ramrampur and Chandpur. Only 6.67% household recorded in the class of less than -20. Ramrampur recorded quite better compare to Chandpur. 11.11% household recorded in the lowest class (less than -20) of composite food security index.

Table 6.21

Households across different class of Composite Index of Food Security in Nalhati, 2012-13

class	No. of HH	percentage of HH
less than -20	**16**	**11.03**
20 to 10	31	21.38
10 to 0	30	20.69
0 to 10	18	12.41
10 to 20	26	17.93
20 to 30	6	4.14
above 30	18	12.41
	145	

Source: Computed from Primary data analysis

Tejhati

class	No. of HH	percentage of HH
less than -20	**7**	**14**

-20 to -10	15	30
-10 to 0	4	8
0 to 10	7	14
10 to 20	7	14
20 to 30	1	2
above 30	9	18
Total	50	

Source: Computed from Primary data analysis

Harisara

class	No. of HH	percentage of HH
less than -20	**6**	**12**
-20 to -10	7	14
-10 to 0	15	30
0 to 10	6	12
10 to 20	10	20
20 to 30	1	2
above 30	5	10
	50	

Source: Computed from Primary data analysis

Bautia

class	No. of HH	percentage of HH
less than -20	**3**	**6.67**
-20 to -10	9	20
-10 to 0	11	24.44
0 to 10	5	11.11
10 to 20	9	20
20 to 30	4	8.89
above 30	4	8.89
	45	

Source: Computed from Primary data analysis

Among three villages of Nalhati block Bautia recorded better compare to Tejhati and Harisara. Bautia is the Panchayat of Tejhati and Harisara that's why it is relatively better off than the rest of the two. Only 6.67% household recorded in lowest class of composite index of food security. Though Tejhati recorded highest percentage of

household in above 30 class of composite index value, but more than 60% household recorded within less than -20 to 10 index value. Tejhati recorded relatively better than Harisara.

Table 6.22

Households across different class of Composite Index of Food Security in Murarai, 2012-13

class	No. of HH	percentage of HH
less than -20	**6**	**3.92**
-20 to -10	39	25.49
-10 to 0	41	26.8
0 to 10	30	19.61
10 to 20	21	13.73
20 to 30	7	4.58
above 30	9	5.88
	153	

Source: Computed from Primary data analysis

Duria

class	No. of HH	percentage of HH
less than -20	**3**	**5.66**
-20 to -10	16	30.19
-10 to 0	12	22.64
0 to 10	9	16.98
10 to 20	8	15.09
20 to 30	3	5.66
above 30	2	3.77
Total	53	

Source: Computed from Primary data analysi

Chatra

class	No. of HH	percentage of HH
less than -20	**3**	**6.67**
-20 to -10	10	22.22
-10 to 0	12	26.67
0 to 10	8	17.78
10 to 20	7	15.56
20 to 30	2	4.44
above 30	3	6.67

	45	

Source: Computed from Primary data analysis

Palsa

class	No. of HH	percentage of HH
less than -20	**0**	**0**
-20 to -10	13	23.64
-10 to 0	17	30.91
0 to 10	13	23.64
10 to 20	6	10.91
20 to 30	2	3.64
above 30	4	7.27
	55	

Source: Computed from Primary data analysis

Palsa recorded best among all the three villages of Murarai block. Not a single household recorded in the lowest class of (less than -20) of composite food security index and 7.27% (highest among all the villages) household recorded in the top class (above 30) of food security index value. Chatra is relatively better than Duria on the front of composite food security index value. From the above analysis we can conclude that Murarai is relatively better than the Rampurhat and Nalhati in all the three front of food security. Chandpur is the worst among all the nine villages on the front of food security.

6.9 FINDINGS

In case of food accessibility though non SCs/STs population not been seen to have higher weightage but it negatively correlated with poor people. Among all the food accessibility indicators Monthly Per capita Consumer Expenditure and Per capita per day Kcl calorie consumption have significant effect on food security. These two indicators are given higher weightage compare to other indicators of food accessibility in PCA. Lastly the most important of all the food utilization condition should be analysed. Among all the indicators of food utilization access to safe drinking water facilities, presence of cow and other assets are given higher weightage in PCA.

CHAPTER 7

FOOD SECURITY AND CHILD LABOUR LINKAGES AND CHILD HEALTH

7.1 INTRODUCTION:-

The study entitled " Food Security and Child Work in Rural India authored by G. Daly, D. Bhattacharya and B.P. Dash is an exercise of different genre. They have meticulously used secondary data to bring home their argument that food insecurity and child labour move together in same direction. They find that food insecurity and child deprivation in general co-exist at least in India's rural landscape. They have used food insecurity map of rural India prepared by World Food Programme. One could easily locate food deficient areas of varying degrees in the map. They prepared a similar map in the line with food insecurity map and child labour infested regions of India. The letter map was super imposed on the former to see whether child labour zone overlap with food insecure zone. In this chapter an attempt has been made to see the linkages between child labour and food security in the study area.

7.2 FOOD AVAILABILITY AND CHILD LABOUR IN STUDY AREA:-

Table 7.1

Child Labour across different class of Food Availability Index in Birbhum, 2012-2013

		avlblty_comst_indx_cls							Total
		less than -4	-4 to -2	-2 to 0	0 to 2	2 to 4	4 to 6	6.1 & above	
BLOCK	RAMPURHAT	43	2	2	8	6	3	1	65
		66.2%	3.1%	3.1%	12.3%	9.2%	4.6%	1.5%	100.0%
	NALHATI	29	2	0	3	12	13	12	71
		40.8%	2.8%	.0%	4.2%	16.9%	18.3%	16.9%	100.0%
	MURARAI	29	1	0	0	10	10	7	57
		50.9%	1.8%	.0%	.0%	17.5%	17.5%	12.3%	100.0%
Total		101	5	2	11	28	26	20	193
		52.3%	2.6%	1.0%	5.7%	14.5%	13.5%	10.4%	100.0%

Source: Computed from Primary data analysis

Chi-Square Tests

	Value	Asymp. Sig. (2-sided)
Pearson Chi-Square	32.477[a]	.001
Likelihood Ratio	38.444	.000
Linear-by-Linear Association	8.131	.004

N of Valid Cases	193	

a. 9 cells (42.9%) have expected count less than 5. The minimum expected count is .59.

Above table presents the scenario of child labour distribution across different class of food availability indexes. In Rampurhat 66.2% child labour are recorded to be in the lowest class of food availability index. That could clearly explain the enhancing effect of food insecurity (availability) on the incidence of child labour. In Nalhati 40.8% and in Murarai 50.9% child labour is recorded to be in the lowest class. In total above 50% (52.3%) child labour is observed in the lowest class of food availability index. Person Chi-square test in significant as the value is <.005.

7.3 FOOD ACCESSIBILITY AND CHILD LABOUR IN STUDY AREA:-

Table 7.2

Child Labour across different class of Food Accessibility Index in Birbhum, 2012-2013

		accblty_comst_indx_cls							Total
		less than -4	-4 to -2	-2 to 0	0 to 2	2 to 4	4 to 6	6.1 & above	
BLOCK	RAMPURHAT	10	25	18	8	2	0	2	65
		15.4%	38.5%	27.7%	12.3%	3.1%	.0%	3.1%	100.0%
	NALHATI	2	19	25	11	12	2	0	71
		2.8%	26.8%	35.2%	15.5%	16.9%	2.8%	.0%	100.0%
	MURARAI	3	29	15	5	5	0	0	57
		5.3%	50.9%	26.3%	8.8%	8.8%	.0%	.0%	100.0%
Total		15	73	58	24	19	2	2	193
		7.8%	37.8%	30.1%	12.4%	9.8%	1.0%	1.0%	100.0%

Source: Computed from Primary data analysis

Chi-Square Tests

	Value	Asymp. Sig. (2-sided)
Pearson Chi-Square	28.645[a]	.004
Likelihood Ratio	29.839	.003
Linear-by-Linear Association	.085	.770
N of Valid Cases	193	

a. 7 cells (33.3%) have expected count less than 5. The minimum expected count is .59.

Above table explains the distribution of child labour across different classes of food accessibility indexes. Most of the child labour (37.8%) is recorded to be seen in the class of -4 to -2 class followed by 30.1% in -2 to 0 class, 12.4% in 0 to 2 class, 9.8% in 2 to 4 class, 7.8% in less than -4 class, 1% each in 4to 6 and above 6.1 class. In Rampurhat most of the child labourers (38.5%) are recorded in -4 to -2 class. In this same class 26.8% and 50.9% child labour is recorded in Nalhati and Murarai respectively. In Nalhati most of the child labourers (35.2%) are recorded in -2 to 0 class followed by 26.8% in -4 to -2 class, 16.9% in 2 to 4 class, 15.5% in 0 to 2 class, 2.8% in both less than -4 and 4 to 6 class. Chi square test value is less than <.004 that means it is significant.

7.4 FOOD UTILIZATION AND CHILD LABOUR IN STUDY AREA:-

Table 7.3

Child Labour across different class of Food Utilization Index in Birbhum, 2012-2013

		utilzn_comst_indx_cls							Total
		less than -20	-20 to -10	-10 to 0	0 to 10	10 to 20	20 to 30	30.1 & above	
BLOCK	RAMPURHAT	6	27	13	9	7	3	0	65
		9.2%	41.5%	20.0%	13.8%	10.8%	4.6%	.0%	100.0%
	NALHATI	4	25	23	13	3	2	1	71
		5.6%	35.2%	32.4%	18.3%	4.2%	2.8%	1.4%	100.0%
	MURARAI	0	11	37	7	1	1	0	57
		.0%	19.3%	64.9%	12.3%	1.8%	1.8%	.0%	100.0%

Total	10	63	73	29	11	6	1	193
	5.2%	32.6%	37.8%	15.0%	5.7%	3.1%	.5%	100.0%

Chi-Square Tests

	Value	Asymp. Sig. (2-sided)
Pearson Chi-Square	35.101[a]	.000
Likelihood Ratio	37.542	.000
Linear-by-Linear Association	.370	.543
N of Valid Cases	193	

a. 12 cells (57.1%) have expected count less than 5. The minimum expected count is .30.

Above table explains the distribution of child labour in across different classes of food utilization indexes. In Birbhum district most of the child labour (37.8%) is recorded in the class of -10 to 0 followed by 32.6% in -20 to -10 class, 15% in 0 to 10 class, 5.7% in 10 to 20 class, 5.2% in less than -20 class, 3.1% in 20 to 30 class and only .5% in the highest class of 30.1 and above. The scenario is a bit different in Rampurhat where most of the child labourers (41.5%) are recorded in -20 to -10 class followed by 20% in -10 to 0, 13.8% in 0 to 10, 10.8% in 10 to 20, 9.2% in less than -20 and 4.6% in 20 to 30 class. In Murarai the scenario is quite different as more than 50% (64.9%) child labourers are recorded in -10 to 0 class followed by 19.3% in -20 to -10 class, 12.3% in 0 to 10 class, 1.8% in both 10 to 20 and 20 to 30 class. The chi square value is less than .005 that means it is significant.

7.5 CHILD LABOUR IN DIFFERENT TYPE OF WORK IN DIFFERENT LEVEL OF FOOD AVAILABILITY :-

Case Processing Summary

		N	Marginal Percentage
CHILD WORKER	Wage Earner	74	38.3%
	Domestic Worker	34	17.6%
	Agricultural Labour	85	44.0%
avlblty_comst_indx_cls	less than -4	101	52.3%
	-4 to -2	5	2.6%
	-2 to 0	2	1.0%
	0 to 2	11	5.7%
	2 to 4	28	14.5%
	4 to 6	26	13.5%
	6.1 & above	20	10.4%
			100.0%

Multinomial logistic regression is used to predict nominal dependent variable given one or more independent variables. Seven variables are created (the independent variable on the basis of food availability index value) in seven ordered categories : i) less than -4, ii) -4 to -2, iii) -2 to 0, iv) 0 to 2, v) 2 to 4, vi) 4 to 6 and vii) 6.1 & above. And the dependant variable has three categories; i) wage earner, ii) Domestic worker, and iii) Agricultural labour.

Model Fitting Information

Model	Model Fitting Criteria	Likelihood Ratio Tests

	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	92.848			
Final	33.531	59.318	12	.000

The final row in the model fitting information presents information whether all the coefficient of the model is zero that means whether any of the coefficients are statistically significant. It could be seen that sig. p=.000 which means that full model statistically significant predicting the dependent variable better than the intercept only model.

Pseudo R-Square

Cox and Snell	.265
Nagelkerke	.303
McFadden	.149

In multinomial logistic regression it can be considered that R square is like in ordinary least squares linear regression is the proportion of variance that can be explained by the model. However these are pseudo R square measures and there is more than one. Nagelkerke Pseudo R square value is .303 means 30% of the variance is explained in dependent variable by independent variable.

Likelihood Ratio Tests

	Model Fitting Criteria	Likelihood Ratio Tests		
Effect	-2 Log Likelihood of Reduced Model	Chi-Square	df	Sig.
Intercept	33.531[a]	.000	0	.
avlblty_comst_indx_cls	92.848	59.318	12	.000

The chi-square statistic is the difference in -2 log-likelihoods between the final model and a reduced model. The reduced model is formed by omitting an effect from the final model. The null hypothesis is that all parameters of that effect are 0.

Likelihood Ratio Tests

Effect	Model Fitting Criteria	Likelihood Ratio Tests		
	-2 Log Likelihood of Reduced Model	Chi-Square	df	Sig.
Intercept	33.531[a]	.000	0	.
avlblty_comst_indx_cls	92.848	59.318	12	.000

The chi-square statistic is the difference in -2 log-likelihoods between the final model and a reduced model. The reduced model is formed by omitting an effect from the final model. The null hypothesis is that all parameters of that effect are 0.

a. This reduced model is equivalent to the final model because omitting the effect does not increase the degrees of freedom.

The above table shows that the independent variable (food availability) is statistically significant because p <.005.

Table 7.4

Child Labour in different type of work in different class of Food Availability in Birbhum, 2012-2013

CHILD WORKER[a]		B	Std. Error	Wald	Sig.	Exp(B)	95% Confidence Interval for Exp(B)	
							Lower Bound	Upper Bound
Wage Earner	Intercept	-1.253	.567	4.883	.027			
	[avlblty_comst_indx_cls=1.00]	2.169	.616	12.389	.000	8.750	2.615	29.279
	[avlblty_comst_indx_cls=2.00]	.560	1.350	.172	.678	1.750	.124	24.650
	[avlblty_comst_indx_cls=3.00]	-17.353	7758.197	.000	.998	2.907E-8	.000	.[b]
	[avlblty_comst_indx_cls=4.00]	-.251	.966	.068	.795	.778	.117	5.162
	[avlblty_comst_indx_cls=5.00]	-.421	.847	.247	.619	.656	.125	3.451
	[avlblty_comst_indx_cls=6.00]	-.251	.792	.101	.751	.778	.165	3.672
	[avlblty_comst_indx_cls=7.00]	0[c]	.	.	.	.	.	.

Domestic Worker	Intercept	-1.946	.756	6.626	.010			
	[avlblty_comst_indx_cls=1.00]	1.601	.820	3.815	.051	4.958	.994	24.721
	[avlblty_comst_indx_cls=2.00]	1.946	1.254	2.410	.121	7.000	.600	81.684
	[avlblty_comst_indx_cls=3.00]	-17.438	.000	.	.	2.672E-8	2.672E-8	2.672E-8
	[avlblty_comst_indx_cls=4.00]	-16.904	4131.781	.000	.997	4.556E-8	.000	.[b]
	[avlblty_comst_indx_cls=5.00]	1.371	.863	2.521	.112	3.938	.725	21.377
	[avlblty_comst_indx_cls=6.00]	.442	.936	.223	.637	1.556	.248	9.750
	[avlblty_comst_indx_cls=7.00]	0[c]	.	.	.	.	.	.

a. The reference category is: Agricultural Labour.

b. Floating point overflow occurred while computing this statistic. Its value is therefore set to system missing.

c. This parameter is set to zero because it is redundant.

The above table presents the parameter estimates (known as the coefficients of the model). Each dummy variable has a coefficient for food availability index variable. As there are three categories of the dependent variable, there are two sets of logistic regression coefficients. The first set of coefficient is found in the wage earner row (representing the comparison of the wage earner category to the reference category of agricultural labour). The second set of coefficient is found in the Domestic labour row (representing the comparison of the domestic worker category to the reference category agricultural labour).

The only coefficient that is statistically significant is for food availability index lowest class (less than -4) ($p<.005$) for both wage earner and domestic worker. In both cases child labour is more likely to be seen working as wage earner and domestic worker with reference to agricultural labour in the lowest class of food availability index and it is significant.

7.6 CHANGE OF CHILD WORK IN DIFFERENT LEVEL OF FOOD AVAILABILITY:-

Case Processing Summary

	N	Marginal Percentage

CHILD WORKER	Wage Earner	74	38.3%
	Domestic Worker	34	17.6%
	Agricultural Labour	85	44.0%
avlblty_comst_indx_cls	less than -4	101	52.3%
	-4 to -2	5	2.6%
	-2 to 0	2	1.0%
	0 to 2	11	5.7%
	2 to 4	28	14.5%
	4 to 6	26	13.5%
	6.1 & above	20	10.4%
Valid		193	100.0%

Ordinal regression is explains the relationship between one dependent variable and two or more independent variables. In ordinal regression analysis the dependent variable is ordinal and the independent variables are ordinal or continuous. In case processing summary table we could see the number and percentage of cases in each level.

Model Fitting Information

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	92.848			
Final	42.696	50.153	6	.000

Link function: Logit.

The final row in the model fitting information presents information whether all the coefficient of the model is zero that means whether any of the coefficients are statistically significant. It could be seen that sig. p=.000 which means that full model statistically significant predicting the dependent variable better than the intercept only model.

Goodness-of-Fit

	Chi-Square	df	Sig.
Pearson	8.554	6	.200
Deviance	9.165	6	.165

Goodness-of-Fit

	Chi-Square	df	Sig.
Pearson	8.554	6	.200
Deviance	9.165	6	.165

Link function: Logit.

Pseudo R-Square

Cox and Snell	.229
Nagelkerke	.262
McFadden	.126

Link function: Logit.

In order logistic regression it can be considered that R square is like in ordinary least squares linear regression is the proportion of variance that can be explained by the model. However these are pseudo R square measures and there is more than one. Nagelkerke Pseudo R square value is .262 means 26% of the variance is explained in dependent variable by independent variable.

In the Parameter estimates table we see the coefficients, their standard errors, the wald test and associated p-values (significant) and the 95% confidence interval of the coefficients. The lowest level class (less than -4) of food availability index is statistically significant. So it could be said that for one unit increase in food availability index value we expect a 2.02 decrease in the ordered log odds of being in a higher level of child labour (wage earner to domestic labour to agricultural labour).The thresholds are shown at the top of the parameter estimates output and they indicate where the latent variable is cut to make the three groups that we observe in data.

Table 7.5

Change in Child work with change in different class of Food Availability in Birbhum, 2012-2013

Parameter Estimates

		Estimate	Std. Error	Wald	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Threshold	[work_by_chld = 1.00]	-1.676	.487	11.839	.001	-2.630	-.721
	[work_by_chld = 2.00]	-.773	.473	2.667	.102	-1.700	.155
Location	[avlblty_comst_indx_cls=1.00]	-2.023	.517	15.311	.000	-3.037	-1.010
	[avlblty_comst_indx_cls=2.00]	-.856	.964	.788	.375	-2.745	1.033
	[avlblty_comst_indx_cls=3.00]	19.196	.000	.	.	19.196	19.196
	[avlblty_comst_indx_cls=4.00]	.604	.884	.466	.495	-1.129	2.336
	[avlblty_comst_indx_cls=5.00]	-.298	.605	.242	.623	-1.483	.888
	[avlblty_comst_indx_cls=6.00]	.036	.631	.003	.954	-1.200	1.273
	[avlblty_comst_indx_cls=7.00]	0[a]	.	.	.	.	.

Link function: Logit.

a. This parameter is set to zero because it is redundant.

7.7 CHILD LABOUR IN DIFFERENT TYPE OF WORK IN DIFFERENT LEVEL OF FOOD ACCESSIBILITY:-

Case Processing Summary

		N	Marginal Percentage
CHILD WORKER	Wage Earner	74	38.3%
	Domestic Worker	34	17.6%
	Agricultural Labour	85	44.0%
accblty_comst_indx_cls	less than -4	15	7.8%
	-4 to -2	73	37.8%
	-2 to 0	58	30.1%
	0 to 2	24	12.4%
	2 to 4	19	9.8%
	4 to 6	2	1.0%

	6.1 & above	2	1.0%
Valid		193	100.0%

Multinomial logistic regression is used to predict nominal dependent variable given one or more independent variables. Seven variables are created (the independent variable on the basis of food accessibility index value) in seven ordered categories : i) less than -4, ii) -4 to -2, iii) -2 to 0, iv) 0 to 2, v) 2 to 4, vi) 4 to 6 and vii) 6.1 & above. And the dependant variable has three categories; i) wage earner, ii) Domestic worker, and iii) Agricultural labour.

Model Fitting Information

	Model Fitting Criteria	Likelihood Ratio Tests		
Model	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	82.238			
Final	32.390	49.847	12	.000

The final row in the model fitting information presents information whether all the coefficient of the model is zero that means whether any of the coefficients are statistically significant. It could be seen that sig. p=.000 which means that full model statistically significant predicting the dependent variable better than the intercept only model.

Pseudo R-Square

Cox and Snell	.228
Nagelkerke	.261
McFadden	.125

In multinomial logistic regression it can be considered that R square is like in ordinary least squares linear regression is the proportion of variance that can be explained by the model. However these are pseudo R square measures and there is more than one. Nagelkerke Pseudo R square value is .261 means 26% of the variance is explained in dependent variable by independent variable.

Likelihood Ratio Tests

Effect	Model Fitting Criteria: -2 Log Likelihood of Reduced Model	Likelihood Ratio Tests: Chi-Square	df	Sig.
Intercept	32.390[a]	.000	0	.
accblty_comst_indx_cls	82.238	49.847	12	.000

The chi-square statistic is the difference in -2 log-likelihoods between the final model and a reduced model. The reduced model is formed by omitting an effect from the final model. The null hypothesis is that all parameters of that effect are 0.

a. This reduced model is equivalent to the final model because omitting the effect does not increase the degrees of freedom.

The above table shows that the independent variable (food accessibility) is statistically significant because p <.005.

Table 7.6

Child Labour in different type of work in different class of Food Accessibility in Birbhum, 2012-2013

Parameter Estimates

CHILD WORKER[a]		B	Std. Error	Wald	Sig.	Exp(B)	95% Confidence Interval for Exp(B): Lower Bound	Upper Bound
Wage Earner	Intercept	.000	1.414	.000	1.000			

	[accblty_comst_indx_cls=1.00]	1.705	1.610	1.122	.290	5.500	.235	128.968
	[accblty_comst_indx_cls=2.00]	.644	1.440	.200	.654	1.905	.113	32.010
	[accblty_comst_indx_cls=3.00]	-.423	1.445	.086	.770	.655	.039	11.119
	[accblty_comst_indx_cls=4.00]	-1.735	1.547	1.258	.262	.176	.009	3.658
	[accblty_comst_indx_cls=5.00]	-17.909	2146.963	.000	.993	1.669E-8	.000	.[b]
	[accblty_comst_indx_cls=6.00]	-18.606	7758.197	.000	.998	8.307E-9	.000	.[b]
	[accblty_comst_indx_cls=7.00]	0[c]	.	.	.	.	.	.
Domestic Worker	Intercept	-18.164	.494	1354.523	.000			
	[accblty_comst_indx_cls=1.00]	18.164	1.115	265.319	.000	7.740E7	8699595.362	6.886E8
	[accblty_comst_indx_cls=2.00]	17.605	.612	827.493	.000	4.423E7	1.333E7	1.468E8
	[accblty_comst_indx_cls=3.00]	17.100	.615	773.401	.000	2.669E7	7997358.868	8.907E7
	[accblty_comst_indx_cls=4.00]	16.718	.743	505.919	.000	1.821E7	4243143.160	7.816E7
	[accblty_comst_indx_cls=5.00]	17.391	.000	.	.	3.572E7	3.572E7	3.572E7
	[accblty_comst_indx_cls=6.00]	-1.219	.000	.	.	.295	.295	.295
	[accblty_comst_indx_cls=7.00]	0[c]	.	.	.	.	.	.

a. The reference category is: Agricultural Labour.

b. Floating point overflow occurred while computing this statistic. Its value is therefore set to system missing.

c. This parameter is set to zero because it is redundant.

The above table presents the parameter estimates (known as the coefficients of the model). Each dummy variable has a coefficient for food accessibility index variable. As there are three categories of the dependent variable, there are two sets of logistic regression coefficients. The first set of coefficient is found in the wage earner row (representing the comparison of the wage earner category to the reference category of agricultural labour). The second set of coefficient is found in the Domestic labour row (representing the comparison of the domestic worker category to the reference category agricultural labour).

The only coefficient that is statistically significant is for food accessibility index in the following class: i) less than -4, ii) -4 to -2, iii) -2 to 0, and iv) 0 to 2 ($p<.005$) for domestic worker. Child labour is more likely to be seen working as domestic worker with reference to agricultural labour in those above classes of food accessibility index and it is significant.

7.8 CHANGE OF CHILD WORK IN DIFFERENT LEVEL OF FOOD ACCESSIBILITY:-

Case Processing Summary

		N	Marginal Percentage
CHILD WORKER	Wage Earner	74	38.3%
	Domestic Worker	34	17.6%
	Agricultural Labour	85	44.0%
accblty_comst_indx_cls	less than -4	15	7.8%
	-4 to -2	73	37.8%
	-2 to 0	58	30.1%
	0 to 2	24	12.4%
	2 to 4	19	9.8%
	4 to 6	2	1.0%
	6.1 & above	2	1.0%
			100.0%

Ordinal regression explains the relationship between one dependent variable and two or more independent variables. In ordinal regression analysis the dependent variable is ordinal and the independent variables are ordinal or continuous. In case processing summary table we could see the number and percentage of cases in each level.

Model Fitting Information

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	82.238			
Final	42.968	39.270	6	.000

Link function: Logit.

The final row in the model fitting information presents information whether all the coefficient of the model is zero that means whether any of the coefficients are statistically significant. It could be seen that sig. p=.000 which means that full model statistically significant predicting the dependent variable better than the intercept only model.

Goodness-of-Fit

	Chi-Square	df	Sig.
Pearson	8.812	6	.184
Deviance	10.578	6	.102

Link function: Logit.

Pseudo R-Square

Cox and Snell	.184
Nagelkerke	.211
McFadden	.098

Link function: Logit.

In order logistic regression it can be considered that R square is like in ordinary least squares linear regression is the proportion of variance that can be explained by the model. However these are pseudo R square measures and there is more than one. Nagelkerke Pseudo R square value is .211 means 21% of the variance is explained in dependent variable by independent variable.

Table 7.7

Change in Child work with change in different class of Food Accessibility in Birbhum, 2012-2013

Parameter Estimates

						95% Confidence Interval	
		Estimate	Std. Error	Wald	Sig.	Lower Bound	Upper Bound
Threshold	[work_by_chld = 1.00]	-.426	1.317	.104	.747	-3.006	2.155
	[work_by_chld = 2.00]	.426	1.317	.104	.747	-2.155	3.006
Location	[accblty_comst_indx_cls=1.00]	-1.439	1.437	1.002	.317	-4.255	1.378
	[accblty_comst_indx_cls=2.00]	-.572	1.334	.183	.668	-3.186	2.043
	[accblty_comst_indx_cls=3.00]	.374	1.338	.078	.780	-2.249	2.997
	[accblty_comst_indx_cls=4.00]	1.346	1.389	.938	.333	-1.377	4.069
	[accblty_comst_indx_cls=5.00]	1.409	1.411	.997	.318	-1.357	4.174
	[accblty_comst_indx_cls=6.00]	20.398	.000	.	.	20.398	20.398
	[accblty_comst_indx_cls=7.00]	0[a]	.	.	.	.	.

Link function: Logit.

a. This parameter is set to zero because it is redundant.

In the Parameter estimates table we see the coefficients, their standard errors, the wald test and associated p-values (significant) and the 95% confidence interval of the coefficients. There is no food accessibility index class which statistically significant. So it could be said that for one unit increase in food accessibility index value in less than -4 class and -4 to -2 class we expect a 1.43 and .572 decreases in the ordered log odds of being in a higher level of child labour (wage earner to domestic labour to agricultural labour) though it is not significant. But above these two classes we expect increase in the log odds of being in a higher level of child labour (1. Wage earner, 2. Domestic labour and 3. Agricultural labour) though it is not significant. The thresholds are shown at the top of the parameter estimates output and they indicate where the latent variable is cut to make the three groups that we observe in data.

7.9 CHILD LABOUR IN DIFFERENT TYPE OF WORK IN DIFFERENT LEVEL OF FOOD UTILIZATION:-

Case Processing Summary

		N	Marginal Percentage
CHILD WORKER	Wage Earner	74	38.3%
	Domestic Worker	34	17.6%
	Agricultural Labour	85	44.0%
utilzn_comst_indx_cls	less than -20	10	5.2%
	-20 to -10	63	32.6%
	-10 to 0	73	37.8%
	0 to 10	29	15.0%
	10 to 20	11	5.7%
	20 to 30	6	3.1%
	30.1 & above	1	.5%
Valid		193	100.0%

Multinomial logistic regression is used to predict nominal dependent variable given one or more independent variables. Seven variables are created (the independent variable on the basis of food utilization index value) in seven ordered categories : i) less than -20, ii) -20 to -10, iii) -10 to 0, iv) 0 to 10, v) 10 to 20, vi) 20 to 30 and vii) 30.1 & above. And the dependant variable has three categories; i) wage earner, ii) Domestic worker, and iii) Agricultural labour.

Model Fitting Information

	Model Fitting Criteria	Likelihood Ratio Tests		
Model	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	56.750			

Model Fitting Information

Model	Model Fitting Criteria	Likelihood Ratio Tests		
	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	56.750			
Final	33.799	22.951	12	.028

The final row in the model fitting information presents information whether all the coefficient of the model is zero that means whether any of the coefficients are statistically significant. It could be seen that sig. p=.028 which means that full model statistically significant predicting the dependent variable better than the intercept only model.

Pseudo R-Square

Cox and Snell	.112
Nagelkerke	.128
McFadden	.057

In multinomial logistic regression it can be considered that R square is like in ordinary least squares linear regression is the proportion of variance that can be explained by the model. However these are pseudo R square measures and there is more than one. Nagelkerke Pseudo R square value is .128 means 12% of the variance is explained in dependent variable by independent variable.

Likelihood Ratio Tests

Effect	Model Fitting Criteria	Likelihood Ratio Tests		
	-2 Log Likelihood of Reduced Model	Chi-Square	df	Sig.
Intercept	33.799[a]	.000	0	.
utilzn_comst_indx_cls	56.750	22.951	12	.028

The chi-square statistic is the difference in -2 log-likelihoods between the final model and a reduced model. The reduced model is formed by omitting an effect from the final model. The null hypothesis is that all parameters of that effect are 0.

a. This reduced model is equivalent to the final model because omitting the effect does not increase the degrees of freedom.

Table 7.8

Child Labour in different type of work in different class of Food Utilization in Birbhum, 2012-2013

Parameter Estimates

CHILD WORKER[a]		B	Std. Error	Sig.	Exp(B)	95% Confidence Interval for Exp(B)	
						Lower Bound	Upper Bound
Wage Earner	Intercept	-17.606	6654.700	.998			
	[utilzn_comst_indx_cls=1.00]	18.117	6654.700	.998	7.381E7	.000	.[b]
	[utilzn_comst_indx_cls=2.00]	17.894	6654.700	.998	5.905E7	.000	.[b]
	[utilzn_comst_indx_cls=3.00]	17.638	6654.700	.998	4.571E7	.000	.[b]
	[utilzn_comst_indx_cls=4.00]	16.565	6654.700	.998	1.563E7	.000	.[b]
	[utilzn_comst_indx_cls=5.00]	16.625	6654.700	.998	1.661E7	.000	.[b]
	[utilzn_comst_indx_cls=6.00]	.714	7050.321	1.000	2.042	.000	.[b]
	[utilzn_comst_indx_cls=7.00]	0[c]	.	.	.	.	.
Domestic Worker	Intercept	-18.384	.866	.000			
	[utilzn_comst_indx_cls=1.00]	17.978	1.258	.000	6.426E7	5455654.169	7.568E8
	[utilzn_comst_indx_cls=2.00]	17.978	.932	.000	6.426E7	1.034E7	3.994E8
	[utilzn_comst_indx_cls=3.00]	17.252	.939	.000	3.109E7	4933175.287	1.960E8
	[utilzn_comst_indx_cls=4.00]	17.342	.988	.000	3.402E7	4909155.264	2.357E8
	[utilzn_comst_indx_cls=5.00]	.752	2382.669	1.000	2.122	.000	.[b]
	[utilzn_comst_indx_cls=6.00]	17.691	.000	.	4.819E7	4.819E7	4.819E7
	[utilzn_comst_indx_cls=7.00]	0[c]	.	.	.	.	.

a. The reference category is: Agricultural Labour.

b. Floating point overflow occurred while computing this statistic. Its value is therefore set to system missing.

c. This parameter is set to zero because it is redundant.

The above table presents the parameter estimates (known as the coefficients of the model). Each dummy variable has a coefficient for food utilization index variable. As there are three categories of the dependent variable, there are two sets of logistic regression coefficients. The first set of coefficient is found in the wage earner row (representing the comparison of the wage earner category to the reference category of agricultural labour). The second set of coefficient is found in the Domestic labour row (representing the comparison of the domestic worker category to the reference category agricultural labour).

The only coefficient that is statistically significant is for food utilization index in the following class: i) less than -20, ii) -20 to -10, iii) -10 to 0, and iv) 0 to 10 ($p<.005$) for domestic worker. Child labour is more likely to be seen working as domestic worker with reference to agricultural labour in those above classes of food accessibility index and it is significant.

7.10 CHANGE OF CHILD WORK IN DIFFERENT LEVEL OF FOOD UTILIZATION:-

Case Processing Summary

		N	Marginal Percentage
CHILD WORKER	Wage Earner	74	38.3%
	Domestic Worker	34	17.6%
	Agricultural Labour	85	44.0%
utilzn_comst_indx_cls	less than -20	10	5.2%
	-20 to -10	63	32.6%
	-10 to 0	73	37.8%
	0 to 10	29	15.0%
	10 to 20	11	5.7%
	20 to 30	6	3.1%
	30.1 & above	1	.5%

Valid	193	100.0%

Ordinal regression explains the relationship between one dependent variable and two or more independent variables. In ordinal regression analysis the dependent variable is ordinal and the independent variables are ordinal or continuous. In case processing summary table we could see the number and percentage of cases in each level.

Model Fitting Information

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	56.750			
Final	42.978	13.771	6	.032

Link function: Logit.

The final row in the model fitting information presents information whether all the coefficient of the model is zero that means whether any of the coefficients are statistically significant. It could be seen that sig. p=.032 which means that full model statistically significant predicting the dependent variable better than the intercept only model.

Goodness-of-Fit

	Chi-Square	df	Sig.
Pearson	7.440	6	.282
Deviance	9.179	6	.164

Link function: Logit.

Pseudo R-Square

Cox and Snell	.069
Nagelkerke	.079
McFadden	.034

Link function: Logit.

In order logistic regression it can be considered that R square is like in ordinary least squares linear regression is the proportion of variance that can be explained by the model. However these are pseudo R square measures and there is more than one. Nagelkerke Pseudo R square value is .079 means only 8% of the variance is explained in dependent variable by independent variable.

Table 7.9

Change in Child work with change in different class of Food Utilization in Birbhum, 2012-2013

Parameter Estimates

						95% Confidence Interval	
		Estimate	Std. Error	Wald	Sig.	Lower Bound	Upper Bound
Threshold	[work_by_chld = 1.00]	-19.737	.901	479.871	.000	-21.503	-17.971
	[work_by_chld = 2.00]	-18.980	.896	448.921	.000	-20.736	-17.224
Location	[utilzn_comst_indx_cls=1.00]	-19.771	1.079	335.470	.000	-21.887	-17.655
	[utilzn_comst_indx_cls=2.00]	-19.583	.927	445.844	.000	-21.400	-17.765
	[utilzn_comst_indx_cls=3.00]	-19.388	.923	441.501	.000	-21.197	-17.580
	[utilzn_comst_indx_cls=4.00]	-18.567	.968	367.730	.000	-20.465	-16.669
	[utilzn_comst_indx_cls=5.00]	-18.179	1.101	272.421	.000	-20.337	-16.020
	[utilzn_comst_indx_cls=6.00]	-18.043	.000	.	.	-18.043	-18.043
	[utilzn_comst_indx_cls=7.00]	0[a]	.	.	.	.	.

Link function: Logit.

a. This parameter is set to zero because it is redundant.

In the Parameter estimates table we see the coefficients, their standard errors, the wald test and associated p-values (significant) and the 95% confidence interval of the coefficients. The following classes of food utilization index are statistically significant less than -20, -20 to -10, -10 to 0, 0 to 10 and 10 to 20. So it could be said that for one unit increase in food utilization index in those classes, we expect a -19.71, -19.58, -19.38, -18.56 and -18.17 decreases in the ordered log odds of being in a higher level of child labour (wage earner to domestic labour to agricultural labour) and it is significant (as $p<.005$). The thresholds are shown at the top of the parameter estimates output and they indicate where the latent variable is cut to make the three groups that we observe in data.

7.11 CHILD LABOUR AND BODY MASS INDEX IN STUDY AREA

Table 7.10

Child Labour across different classes of Body Mass Index in Birbhum, 2012-2013

		Frequency	Valid Percent	Cumulative Percent
Valid	15 or less	56	29	29
	15.1 to 17	77	39.9	68.9
	17.1 to 19	49	25.4	94.3
	19.1 & above	11	5.7	100
	Total	193	100	

Above table presents the scenario of frequency distribution of child labour in different classes of Body Mass Index (BMI). Out of total number of Child Labour in study area majority falls within the class of 15.1 to 17 (39.9%) followed by 15 and less (29%), 17.1 to 19 (25.4%) and very less only 5.7% in 19.1 and above class.

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Table 7.11

Child Labour in different C.D. Blocks across different classes of Body Mass Index (BMI) in Birbhum, 2012-13

		BODY MASS INDEX (BMI) OF CHILD WITHIN THE AGE GROUP OF 5 TO 14 YEARS				Total
		15 or less	15.1 to 17	17.1 to 19	19.1 & above	
BLOCK	RAMPURHAT	28	20	17	0	65
		43.10%	30.80%	26.20%	0.00%	100.00%
	NALHATI	22	32	16	1	71
		31.00%	45.10%	22.50%	1.40%	100.00%
	MURARAI	6	25	16	10	57
		10.50%	43.90%	28.10%	17.50%	100.00%
Total		56	77	49	11	193
		29.00%	39.90%	25.40%	5.70%	100.00%

Above table explains that in Rampurhat most of the child labour having low BMI value compare to Nalhati and Murarai. In Rampurhat majority of child labour comes within the class of 15 or less which is alarming on the account of health with respect to the working children in Rampurhat. Majority if child labour (45.1%) in Nalhati falls within the class of 15.1 to 17 followed by 31% in 15 and less, 22.5% in 17.1 to 19 and only 1.4% in 19.1 and above. In Murarau the health situation of working children are better compare to Rampurhat and Nalhati as very less (only 10.5% child labour) having very low BMI (15 or less). However a significant percentage of child labour (43.9%) recorded within the BMI class of 15.1 to 17 followed by 28.1% in 17.1 to 19 class and 17.5% in 19.1 and above.

Table 7.12

Child Labour in different age group across different classes of Body Mass Index (BMI) in Birbhum, 2012-2013

		BODY MASS INDEX (BMI) OF CHILD WITHIN THE AGE GROUP OF 5 TO 14 YEARS				Total
		15 or less	15.1 to 17	17.1 to 19	19.1 & above	
CHILD AGE	5 to 9 years	33	9	3	0	45
		73.30%	20.00%	6.70%	0.00%	100.00%
	10 to 15 years	23	68	46	11	148
		15.50%	45.90%	31.10%	7.40%	100.00%
Total		56	77	49	11	193
		29.00%	39.90%	25.40%	5.70%	100.00%

Above table presents the scenario of child labour in age group of 5 to 9 years and 10 to 15 years and BMI. For 5 to 9years age group majority of child labour (73.3%) tend to have less BMI compare to 10 to 15 years age group children and not a single child labour recorded having BMI 19.1 and above. In case of child labour in 10 to 15 years age group majority (45.9%) having BMI 15.1 to 17 followed by 31.1% in 17.1 to 19, 15.5% having 15 or less and 7.4% having 19.1 and above BMI.

Table 7.13

Boy and Girl Labour across different classes of Body Mass Index (BMI) in Birbhum, 2012-2013

				BODY MASS INDEX (BMI) OF CHILD WITHIN THE AGE GROUP OF 5 TO 14 YEARS				Total
				15 or less	15.1 to 17	17.1 to 19	19.1 & above	
RAMPURHAT	SEX OF CHILD	MALE		14	11	9		34
				41.20%	32.40%	26.50%		100.00%
		FEMALE		14	9	8		31
				45.20%	29.00%	25.80%		100.00%
	Total			28	20	17		65
				43.10%	30.80%	26.20%		100.00%
NALHATI	SEX OF CHILD	MALE		8	22	11	1	42
				19.00%	52.40%	26.20%	2.40%	100.00%
		FEMALE		14	10	5	0	29
				48.30%	34.50%	17.20%	0.00%	100.00%
	Total			22	32	16	1	71
				31.00%	45.10%	22.50%	1.40%	100.00%
MURARAI	SEX OF CHILD	MALE		4	22	14	9	49
				8.20%	44.90%	28.60%	18.40%	100.00%
		FEMALE		2	3	2	1	8
				25.00%	37.50%	25.00%	12.50%	100.00%
	Total			6	25	16	10	57
				10.50%	43.90%	28.10%	17.50%	100.00%

Above table presents the scenario of BMI variation across gender group in different block of Birbhum district. Boy Labour tend to have better BMI compare to girl labour though the Gap is very in Rampurhat for 15 or less BMI class. Not a single boy or girl labour recorded having BMI 19.1 or above in Rampurhat. In case of Nalhati most of the boy labour (52.4%) recorded in 15.1 to 17 BMI class. But in case of girl labour majority (48.3%) recorded 15 or less BMI followed by 34.5% in 15.1 to 17 BMI. Health condition of child labour is better in Murarai irrespective of boy and girl.

Table 7.14

Child Labour in different type of work and Body Mass Index (BMI) in Birbhum, 2012-2013

		BODY MASS INDEX (BMI) OF CHILD WITHIN THE AGE GROUP OF 5 TO 14 YEARS				Total
		15 or less	15.1 to 17	17.1 to 19	19.1 & above	
CHILD WORKER	Wage Earner	13	33	22	6	74
		17.60%	44.60%	29.70%	8.10%	100.00%
	Domestic Worker	15	10	9	0	34
		44.10%	29.40%	26.50%	0.00%	100.00%
	Agricultural Labour	28	34	18	5	85
		32.90%	40.00%	21.20%	5.90%	100.00%
Total		56	77	49	11	193
		29.00%	39.90%	25.40%	5.70%	100.00%

Above table explains child labour in different type of work and their BMI. Most of the wage earner (44.6%) recorded to have 15.1 to 17 BMI followed by 29.7% (17.1 to 19), 17.6% (15 or less) and only 8.1% (19.1 and above). In case of domestic worker strangely majority having low BMI compare to wage earner and agricultural labour. 44.1% child labour recorded 15 or less BMI followed by 29.4% in 15.1 to 17 and 26.5% in 17.1 to 19.

Next table presents the scenario of child labour in different type of work and their BMI across different blocks of Birbhum. Across all the blocks domestic worker tend to have low BMI compared to Wage earner and agricultural labour. Majority of domestic worker (70%) in Rampurhat having 15 or less BMI Majority (36.7%) of wage earner too having low BMI (15 or less) followed by 33.3% in 17.1 to 19 and 30% in 15.1 to 17. In case of Nalhati scenario is a bit different as only 6.3% of wage earner recorded to have low BMI (15 or less), majority of domestic worker (40%) having low BMI (15 or less) and majority of agricultural labour (40%) recorded BMI 15.1 to 17. In caese of Murarai marely 3.6% of wage earner recorded low BMI 15 or less. Majority of domestic worker (44.4%) having quite high BMI (17.1 to 19) followed by 33.3% in 15.1 to 17, 22.2% in 15 or less. In case of agricultural labour in Murarai most of them (40%) recorded 15.1 to 17 BMI followed by 25% in 17.1 to 19, 20% which quite high compared to other two blocks.

Table 7.15

Child Labour in different type of work and Body Mass Index (BMI) in Birbhum, 2012-2013

BLOCK			BODY MASS INDEX (BMI) OF CHILD WITHIN THE AGE GROUP OF 5 TO 14 YEARS				Total
			15 or less	15.1 to 17	17.1 to 19	19.1 & above	
RAMPURHAT	CHILD WORKER	Wage Earner	11	9	10		30
			36.70%	30.00%	33.30%		100.00%
		Domestic Worker	7	1	2		10
			70.00%	10.00%	20.00%		100.00%
		Agricultural Labour	10	10	5		25
			40.00%	40.00%	20.00%		100.00%
	Total		28	20	17		65
			43.10%	30.80%	26.20%		100.00%
NALHATI	CHILD WORKER	Wage Earner	1	10	5	0	16
			6.30%	62.50%	31.30%	0.00%	100.00%
		Domestic Worker	6	6	3	0	15
			40.00%	40.00%	20.00%	0.00%	100.00%
		Agricultural Labour	15	16	8	1	40
			37.50%	40.00%	20.00%	2.50%	100.00%
	Total		22	32	16	1	71
			31.00%	45.10%	22.50%	1.40%	100.00%
MURARAI	CHILD WORKER	Wage Earner	1	14	7	6	28
			3.60%	50.00%	25.00%	21.40%	100.00%
		Domestic Worker	2	3	4	0	9
			22.20%	33.30%	44.40%	0.00%	100.00%
		Agricultural Labour	3	8	5	4	20
			15.00%	40.00%	25.00%	20.00%	100.00%
	Total		6	25	16	10	57
			10.50%	43.90%	28.10%	17.50%	100.00%

CHAPTER 8

SUMMERY AND CONCLUSION

8.1 SUMMERY AND CONCLUSION:-

After analysis and interpretation of findings inferences could be drawn. Among three villages of Rampurhat Chandpur is worst among all both in case of food security and child labour. In case of food security analysis most of the household recorded in lowest class of food composite index. Child labour concentrated in Chandpur due to the presence of many stone crushing units. Those units employ children just to earn profit. Children are preferred as they lack unionisation and are very docile. They hardly paid for long laborious stone crushing activities. A full tractor stone crushing helps them just earn Rs. 600 only. It however fill there belly still could not help more than that and take a heavy toll on their health. Lack of schooling, work as push factor among tribal. Girls drop out rate is also very high and they work as a carrier of crushed stone. For that they are paid through "tickli" which a token kind of thing and two tickles help them to earn a meagre Rs 5. Friday is their holiday and no body work on that day. That's why most of the work I carried out on Friday. Roads are bad and not concrete. The ration shops are irregular and most of the time remains closed. Stone crushing units around the village almost create a cave which gets filled in monsoon season lead to different kind of disease. People are encouraged by panchayat to plant trees and involve in afforestation as tribal society is largely associated with forest and their main activities are largely concentrated in forest. People are very cooperative all through my survey time but they are not very much fluent in Bengali and that delayed my survey a bit.

Srikrishnapur Pakhuria village situated on the outskirt of Rampurhat and largely dominated by Muslim population. Muslims are mostly OBCs. Pakhuria Primary school situated at the entrance of the villages and whole village connected to Rampurhat through a bridge. Presence of child labour though negligible still drop out rate is high specially at the age of 8 to 10 years. Shrikrishnapur Pakhuria is at the cross road of highway and railway line. That's why seasonal mobility is high among people. During my survey time i was amazed to find out that most of the cases head of the family actually work in Bombay and come once in a while. Pakhuria is mixture of poor, middle and upper middle class population as Rampurhat town which is

expanding towards outskirts area. Most of the child labourers are agricultural labour followed by wage earner and domestic worker.

Ramrampur village in Rampurhat is situated on the way towards Shrifla. Widely accessible to Rampurhat town make people a bit mobile. Ramrampur village having proper road connectivity and it runs around the village. People from lower caste largely dwell outskirt the village. Child labourers are actually concentrated to that part of the villages. Self employed children are largely visible working as painter or electrician or agricultural labour. Presence of rice mill around the area help many children find some work specially those who dropped out. Awareness among people could be felt through the presence of "Gitanjali awas" housings. Food security condition is better than Shrikrishnapur pakhuria and Chandpur.

Tejhati village in Nalhati block situated on high way which connects Rampurhat and Nalhati. Tjhati is densely populated and Hindus are in majority. Upper caste people, Baishnabs and lower caste people make the demography. Most of the upper caste people are actually land owner and lower caste people are tenants on share basis. The people who are tenants get a share of crop production and possessed cow though have to return that after it started giving milk. Child labourers are largely found among lower caste people. Most of them are agricultural labour. Though school drop out rate is low they seasonally migrate to find livelihood. This is high among poor people. During time of rainy season lack of agricultural activities forced to engage in other work like some of them work as conductor, some of them in brick kiln, some of them migrated to the nearest town to get any secondary work. Tejhati Jasamanta High school situated at the centre of this village and quite famous as people from distant villages also come to get admission in this school. Presence of cold storages for potato encourages people to cultivate potato and good connectivity to market area brings profit for potato growers.

The village Harisara in Nalhati block situated across the road from Tejhati. A narrow road beneath railway line connects it to highway and Tejhati. Muslim and Hindu lower caste mainly form the demography. A temple situated at the centre of the village demarcates the boundary of Hindu and Muslim area. They are living amicably for long. Both primary school and madrassa reduce the drop out rate among children

in primary level. But lack of higher schooling facilities encourages the dropout rate among poor specially among Muslims and lower caste Hindu. Most of the child labourers are agricultural labour followed by domestic worker and wage earner. Harisara has its panchayat at Bautia. Children who opt higher studies Tejhati Jasmantapur High school is largely their destination.

Bautia village in Nalhati block is best among all the three villages in context to food security and child labour. Higher caste Hindu population makes the demography. A very few lower caste people are seen at the outskirt. They are largely dom. Presence of Radharaman Primary and High school lower down the drop out rate and working children. Most of the child labourers are agricultural labour and wage earner in Bautia and they are mostly lower caste Hindus. Availability, Affordability and Utilization of food all three are better compare to other villages of Nalhati block. Bautia Panchayat solve most of the food related problem.

Duria village in Murarai block is situated on the way towards Chatra from Nalhati town. Duria is largely dominated by Muslim population and access to Chatra as well as Nalhati help it a lot. Chatra primary school and madrassas help to reduce drop out rate among children within 5 to 9 years age group. Lack of presence of higher secondary schools work as push factor for children to drop out and opt working instead. Most of the child labourers are agricultural labour and very less are wage earner and domestic worker. Seasonal mobility is very high among poor people. Food security is largely seasonal among poor people as they struggle to find work during time of monsoon season.

Chatra village is situated on the way towards Palsa from Duria. It has all the characteristics of a town and densely populated. Demographically upper caste Hindus are mostly land owner and lower caste Hindus and Muslim are tenant or cultivate land on the sharing. Most of the child labourers are actually wage earner. Food security condition is quite better compare to Duria as food availability, accessibility and absorption indicators recorded better compare to Duria. Most of the child labourers are seen working as carpenter among Sutradhar caste of Hindus. Most of the cases they are actually traditionally doing this following their ancester.

Palsa village is a bit far from Chatra. Palsa village is largely populated by Pal community. Pal community people are traditionally engaged in earthern pot making. Child labour is hardly visible in Palsa. Child labouers are mostly wage earner followed by domestic worker and agricultural labour. Presence of many brick kiln units around this village working as pull factor for children who dropout schooling. Ratanpur Jogendranarayan High School situated on the bank of river. It reduces the drop out rate among children to a large extent. Many primary schools like Palsa Panchgacchia primary school, Palsa primary school etc also discourage school drop out rate among poor.

Lastly the three dimension of food security is very helpful to understand the actual food security condition prevails in the study area. Among different indicators of food availability the land holding size, amount of cultivated land and irrigated land have significant effect on overall food security and are given higher weightage in PCA. In case of food accessibility though non SCs/STs population not been seen to have higher weightage but it negatively correlated with poor people. Among all the food accessibility indicators Monthly Per capita Consumer Expenditure and Per capita per day Kcl calorie consumption have significant effect on food security. These two indicators are given higher weightage compare to other indicators of food accessibility in PCA. Lastly the most important of all the food utilization condition should be analysed. Among all the indicators of food utilization access to safe drinking water facilities, presence of cow and other assets are given higher weightage in PCA. Finally conclusion could be drawn as the villages which have access to safe drinking water, households having access to cultivated land and irrigation, households having higher monthly per capita consumer expenditure and higher Kcal consumption tend to have better food security condition compare to others.

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