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CHILDREN IN ASSAM: KEY DEMOGRAPHIC ASPECTS

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The paper presents a set of indirectly estimated common demographic indicators reflective of the status of children as well as reproductive health of women for the state of Assam, which are suitably disaggregated spatially and also with respect to cast, religion and level of education for all the districts. The contribution of such indirectly obtained disaggregated estimates lie in offering better insights for policy targeting in absence of direct data. The paper shows that there exists clear bias in case of both high fertility and child mortality towards rural children, Muslims, marginalised and the illiterates. This underlines a need based approach for improving the status of children in the state.

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Children in Assam: Key Demographic Aspects[#]

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[#] *A Study conducted under the aegis of Unicef, Assam Field Office*

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Introduction

In India, the concept of childhood has been variably defined for legal and constitutional purposes (GoI, 2012). Essentially, the difference lies in fixing the upper-age limit of children. Although, the United Nation's Convention on the Rights of the Children (1990) extends the upper age limit of children to 18 years, which India also ratifies, the upper age limit for a child in India continues to be commonly held at 14 years and most of the demographic indicators are reported accordingly. For instance the Right of Children to Free and Compulsory Education Act, briefly known as the Right to Education Act, 2009 takes the defining age limit of children at 14 years. Likewise, the Factories Act of 1948, the Apprentices Act of 1961 and the Child Labour Prohibition and Regulation Act of 1986 also define children with respect to the age limit of 14 years. On the contrary, the Juvenile Justice (Care and Protection of Children) Act of 2000 (as amended in 2006 and 2010) characterises children as any one who has not completed the 18 years of age. The Prohibition of Child Marriage Act of 2006 also describes that "Child means a person who, if a male, has not completed 21 years of age and, if a female, has not completed 18 years of age". Further, the adult franchise of the country considers 18 as the qualifying age. Notwithstanding, the Indian Panel Code states "nothing is an offence which is done by a child under the age of 7 years. The age of criminal responsibility is raised to 12 years if the child is found to have not attained the ability to understand the nature and consequences of his/her act".

Defined whatever way, India puts care, protection and all round development of children as one of its top most priority. The Constitution embodies both concerns and vision of the country towards its children. The Constitution imposes on the State the primary responsibility of ensuring rights of children and fulfilling their demands. Article 14 ensures rights of children at per with adults. Article 15(3) empowers State to make special provisions for children. Article 21 A ensures free and compulsory education to all children within the age of 6 to 14. Article 24 prohibits employment of anyone below 14 years in factory, industry and mine. Article 39(f) directs State to ensure equal opportunity for children and facilitate healthy development. Article 45 mandates

State to provide early childhood care and education till the age of 6. Article 243 G read with schedule-11 provides for institutionalizing child care to raise the level of nutrition and the standard of living, as well as to improve public health and monitor the development and well being of children in the Country.

Besides, India has enacted numerous laws guaranteeing rights and entitlement of children. Putting them together offer fairly comprehensive legal framework towards care, protection and development of children in the country. Alongside, a number of schemes aiming at child protection and development have also been adopted over the years. Integrated Child Development Service (ICDS) scheme, one of the major flagship programme of the country at present - introduced in 1975, for example, combines six major services viz. supplementary nutrition, immunisation, routine health check up, referral services, pre-school education and nutrition and health education. The Scheme targeted at improving the nutritional and health status of children in their early childhood i.e. prior to the age of 6.

India also has pronounced quite a good number of policy statements addressing specifically the issues of children. The first of the series is the National Policy for Children announced in 1974, which recognised the importance of child care, protection and development and outlined the services that the State needs to provide towards the fulfilment of the same. Subsequently, India's Policy on Education (1986), National Policy on Child Labour (1987), National Nutrition Policy (1993), National Population Policy (2000), and National Health Policy (2002) comprised components for improving the overall status of children in the country. In 2003, India announced the National Charter for Children. The National Charter emphasised the Government's commitment to children's rights to survival, health and nutrition, standard of living, play and leisure, early childhood care, education, protection of the girl child, empowering adolescents, equality, life and liberty, name and nationality, freedom of expression, freedom of association and peaceful assembly, the right to a family and the right to be protected from economic exploitation and all forms of abuse. In 2005, the Government of India has come up with a National Plan of Action for Children which sought inter alia, to abolish discriminatory practices like female foeticide, female infanticide and child marriage and ensuring the survival, development and protection of the girl child.

It is, thus, evident that there has been a due recognition of significance of children as one of most vulnerable yet precious component of Indian society. The commitment of

the State towards care, protection and development of children has been reflected via diverse programmes, schemes, legal provisioning and policy statements. Notwithstanding, status of the country's children as revealed by various statistics and reports, though improving steadily over the years, still remains to be far from satisfactory.

Census of India (2001) data revealed that India a home to 363.6 million children (considered up to the age of 14) which constitutes a share of about 35 percent of its total population. When upper age limit is extended to 18, the share of children to the total population rises to around 44 percent. The proportion of children within 0 to 6 years of age has been found to be 15.93 percent to the total population in the country. Although, the detail age distribution data of the Census 2011 (e.g. C Series) is still awaited, the provisional population total released so far reveals that compared to Census 2001, the country has witnessed a decline in child population (0 to 6 years) in 2011 by 5.05 million in absolute number whereas the country's total population has increased by 181 million. Consequently, the share of children (0 to 6 years) to the total population in 2011 has dropped by 2.8 percentage point i.e. to 13.12 percent. Significantly, the decline is sharper for girls (3.78 percent) than boys (2.41 percent). This decline deserves careful reading as to whether it is suggestive of a general decline in overall fertility or it is indicative of high child mortality. It may be noted that time series SRS (Sample Registration System) data, in fact, suggests both – while TFR (Total Fertility Rate) has declined by 19.35 percent point i.e. from 3.1 to 2.5, the IMR (Infant Mortality Rate) has also dropped by 28.78 percent point, from 66 to 47 during 2001 – 2010.

Immediate significant impact of such a decline is felt on the child sex ratio. While the overall sex ratio in the country marks a steady improvement since 1991 (927 in 1991, 933 in 2001 and 940 in 2011), the child (0 to 6 years) sex ration is exhibiting a constant decline during the same period (945 in 1991, 927 in 2001 and 914 in 2011). There are a number of States with alarmingly low (less than 900) child sex ratio in the country.

Despite concerted efforts, child survival continues to be a key concern in India. The country's IMR of 47 (SRS: 2010) still is on a much higher side. With the billion plus population, this level of IMR makes India single highest contributor of infant mortality in absolute term on the global scale.

Persistent under nutrition of children (under 5 years) in India is evident from the three successive rounds of National Family Heath Surveys (NFHS) conducted in 1992-93, 1997-98 and 2005-06. The latest NFHS data (NFHS III, 2005-06) reveal that 48 percent of the country's children suffer from stunting (reduced growth due to under-nutrition), 43 percent of children in the country are underweight and 20 percent of children are wasting (debilitating disease causes muscle and fat tissue to "waste" away due to chronic malnutrition). NFHS data (2005-06) also reveal that 70 percent of children (6 to 59 months) are anaemic. The research shows that poor nutrition is a major contributing factor to under-five mortality in the country (Arnold et.al.; 2009, Kanjilal et.al.; 2010). Studies also show that even universal implementation of comprehensive child nutrition services like ICDS has not been able to end under-nutrition of children (Gragnolati et. al; 2006).

Making health and education accessible to the country's children universally too has fallen short of expected benchmarks despite continuous efforts and policy highlighting. For instance, as per the Coverage Evaluation Study (Unicef, 2009), some 40 percent of children (within 12- 23 months) still remain out of the routine full immunisation coverage with 8 percent of children remaining without a single dose. The Sentinel Surveillance (2008-09) indicates increasing prevalence of HIV amongst children in the age group of 0-5 years. On the education front, while both Gross and Net Enrolment Ratio have improved, drop outs at upper primary remains high still.

It is, at the same time, important to recognise that there exists wide disparity in terms of indicators underlined above across the country. The results vary over an array of domains – rural and urban as well as male and female. Further, there exists great degree of variations across states and within states, across districts. Besides, clear variations are also visible at the levels of communities, social groups, religion and other similar social-categories. This necessitates, in a sense, micro studies highlighting such differences for informed policy decisions. Keeping this perspective in mind, this paper seeks to study some select demographic attributes of children (and women) in Assam drawing upon specific analyses of available secondary data.

Focus on Key Demographic Indicators: Data and Estimation Issues

Undoubtedly, for designing any intervention, it is important to have robust estimate regarding the size of the target population. The three basic demographic events which affect the population size of an area are births, deaths and migration (Srinivasan, 1998: p. 59). Broadly, the first two are respectively referred to as fertility and mortality behaviours in demography. In this paper, these two are given exclusive focus – for migration warrants independent enquiry due to its varied and complex dimensions.

The most elementary amongst the set of fertility measures is the Crude Birth Rate (CBR), which is generally referred to simply as the birth rate. Technically, the CBR is defined as the ratio of total number of births occurring in a year to the population at the mid-year, expressed per 1000 population. The CBR is widely used measuring for gauging overall changes due to births in a given population. However, the major problem with the CBR is that along with the increase in the numerator, the denominator also increases under-reflecting the changes in fertility. Further, the rate is termed as "crude" because it includes population of all ages and both the sexes (Srinivasan, 1998: p.65).

Given the fact that only women within a specific cohort (usually 15 to 49 years) can bear children, the denominator of the CBR can be changed accordingly to improve upon the measure of fertility in a population. When total number of births is taken in proportion to the mid-year female population of reproductive age group, i.e. 15 to 49 years and expressed per 1000, we get what is called the General Fertility Rate (GFR). The GFR marks a clear improvement over the CBR in the sense that it partially accounts for age composition. However, the GFR still suffers from an inherent limitation for it generalises fertility behaviour of women over a long span of reproductive period. Evidence suggests that fertility behaviour of women even within the reproductive period gets changed significantly. Thus, the GFR clearly does accounts for age structure and comparisons performed based on it may sometimes be quite misleading.

To overcome the problem presented by the GFR, one can consider fertility behaviour of a particular sub-cohort within the reproductive cohort. For instance, one consider number of births of a sub-cohort within the full reproductive cohort in proportion to number total women in that particular cohort. Such ratios when expressed per 1000 produces a set of fertility measures called Age Specific Fertility Rates (ASFR). Usually, the full reproductive span of 15 to 49 years is divided into 7 numbers of 5 year age cohorts for obtaining ASFR. ASFR curves provide greater insights into the fertility pattern in a population and can serve as better apparatus for comparative fertility assessments across different population groups and sub-groups.

One can obtain a useful summative indicator emanating from the schedule ASFRs and that is the Total Fertility Rates (TFR). Given an ASFR schedule, the TFR is obtained as a summation of all ASFRs. Generally speaking, the TFR is the total number of children that a woman is expected to have, on the average, given a particular fertility pattern (defined by the set of ASFRs) in the population.

A related indicator worth mentioning here is the sex-ratio, typically defined as the number of female per 1000 male. It is one of the most socially-relevant demographic indicators. In fact, a falling sex-ratio is emerging as a worrisome concern in India in recent times. The sex-ratio can be considered for total population as well as for children (i.e. 0 to 6 years), or even at birth. Combining sex-ratio (at birth) with TFR yields an interesting indicator called Gross Reproduction Rate (GRR). The GRR is obtained by multiplying TFR with a fraction equal to 1/(1+S) where S is the sex ratio at birth. Most of the times, sex-ratio at birth is not easily available. Under such situation child-ratio may be used as the relevant multiplier for estimating GRR under the presumption that child sex-ratio varies only marginally from the sex-ratio at birth. Theoretically, the GRR adjusts TFR only for female births. Or in other words, as TFR is the average number of children that a woman is expected to have in her life time given a fertility schedule; the GRR is the average number of daughters which a woman is anticipated to have in her life.

Like fertility, mortality analysis is one of the most significant aspects of demographic analysis. A very simple and straight forward measure of mortality in a population is the Crude Death Rate (CDR). Like the CBR, the CDR is a ratio of total number of deaths occurring in a year to the mid-year population of that year, expressed per 1000 population. Since the denominator includes all persons, the CDR does not account for varying risks of death at different ages. When one accounts for this varying risk of death according to ages one obtains Age Specific Death Rates (ASDR). The ASDR typically, is the ratio of number of deaths at a specific age to the total population at that particular age, expressed per 1000 population. Based on the schedule of ASDR, a more complex mortality models known as life tables can be constructed. These models provide estimated probability of a person dying at specific ages.

One particular variant of the ASDR, which relates specifically to children, is known as the Infant Mortality Rate (IMR). Conventionally, the IMR is defined as the number of deaths under age 1 during a specific period divided by the number of life births in the

same period in the population, expressed per 1000. A related indicator is called child mortality or under 5 mortality which provides number of children dying before completing age 5 out of per 1000 live births. Both the indicators are highly suggestive of the status of children as well as the status of reproductive health.

In India, fertility and mortality related data are periodically produced by the SRS (Sample Registration System). Given the dearth of reliable data on important vital statistics like that of fertility and mortality, sample registration of birth and death was initiated under the office of the Registrar General of India (RGI) in 1964 on a pilot basis; later on a full scale in 1969-70. The process of SRS is that it follows up a baseline determining the usual residents through a continuous enumeration of vital events. Data on most of the key demographic attributes are produced through SRS. However, the problem with the SRS data is that lowest level for which data are generated is the state and levels of disaggregation usually involve rural-urban and male-female. The SRS data on vital events are not obtainable at the sub-state levels and disaggregation other than the mentioned above is also not possible.

The Annual Health Survey (2010) carried out by the RGI is the single latest source providing data on most of the vital statistics at the levels of districts. The idea of having an Annual Health Survey for all districts was conceived at the National Commission on Population in 2005 with the aim of providing district level health related data to facilitate decentralised district-based health planning in the country. The Government has confined the project to 284 districts and 9 high focus states which includes Assam along with Bihar, Jharkhand, Uttar Pradesh, Uttarakhand, Madhya Pradesh, Chhattisgarh, Orissa and Rajasthan. These states are characterised by relatively higher fertility and mortality rates accounting for about 48 percent of the total population of the country. The Annual Health Survey (2010) report on Assam presents data on the key demographic attributes up to the level of districts. Notwithstanding, the data are limited to 23 districts of Assam and does not cover the four newly created districts viz. Baska, Chirang, Kamrup Metro and Udalguri.

The National Sample Survey Office (NSSO) also collects information on morbidity and healthcare (Schedule 25.0) for the country. One can estimate mortality rates from the unit level data. However, fertility data is not comprehensively available from any of the NSSO schedules. Similarly, the various rounds of National Family Health Survey (NFHS 1992-93, 1998-99, 2004-05) -one of the country's most detail health surveys – offer

interesting insights regarding vital events both at the aggregate and unit level. However, the sample size of the NFHS does not allow robust district level estimates.

Under such a situation, it is required that district level disaggregated vital statistics are to be estimated for policy targeting. There are some interesting attempts at this in the country. For instance, Guilmoto & Rajan (2002) offer district level estimates of fertility, namely the CBR and TFR for all the districts of the country based on Census 2001. Rajan (2005) further tries to provide district level fertility differentials between Hindus and Muslims for 594 districts of the country. Similar attempts have also been made by Kumar and Sathyanarayana (2012) who tried for district-level estimates of fertility and implied sex ratio at birth in India.

In this paper we have produced a set of indirectly estimated district level key fertility and mortality measures for state of Assam following the universally accepted Manual X on Indirect Demographic Estimation (UN, 1983). For estimating the key fertility indicators, in general, method proposed by Brass (1964) based on average parities from one census method is applied (UN, 1983: pp.31 – 37). Mean Years at Marriage is obtained adopting method suggested in the Manual X (UN, 1983: p 225). The mortality measures are estimated using one census information on children ever born and children surviving (UN, 1983: p. 73).

The required data is available in F Series of Indian Population Census. However, since F Series data of Census 2011 is awaited, we have used Census 2001 data for the estimation purposes. The Census F Series typically allows disaggregation of the estimates to the levels of rural-urban, SC-ST, Hindu-Muslim-Christian and literate-illiterate for all the districts of Census 2001.

There are, however, two issues in using Census 2001 data. First is the issue of data quality. The age-sex distribution data of Census 2001 for state of Assam falls short of requisite quality. Ideally, for meaningful and reliable estimates of demographic indicators it is required that age-sex distribution data conform to a minimum standard. Usual benchmark of such minimum standard is given by typical age-sex accuracy index. The value of the age-sex accuracy index should ideally be less than 20; greater is the value, lesser is the accuracy. Taking total age-sex distribution of the state age-sex accuracy index is estimated to be 39.8. Given this deficiency in overall age-sex distribution of population in the state, it is expected that the same would also percolate

down to the district level distributions. Due to this reported deficiency in quality of age-sex data of Census 2001, the fertility and mortality estimates are exhibiting a potentially upward tendency. The detail parameters of age-sex distribution for Assam (Total Population) Census 2001 are given below:

Age	Population		Age ratio		Age ratio deviation		Sex ratio	Sex ratio difference
	Male	*Female*	*Male*	*Female*	*Male*	*Female*		
All ages	13,759,829	12,866,725					106.9	
0-4	1539293	1494705					103.0	
5-9	1838233	1765468	112.9	113.6	12.9	13.6	104.1	1.1
10-14	1717969	1614674	107.2	107.4	7.2	7.4	106.4	2.3
15-19	1368367	1242426	95.2	89.6	-4.8	-10.4	110.1	3.7
20-24	1157866	1157272	92.9	95.1	-7.1	-4.9	100.1	-10.1
25-29	1125381	1190550	104.0	111.8	4.0	11.8	94.5	-5.5
30-34	1006114	972087	93.8	93.0	-6.2	-7.0	103.5	9.0
35-39	1020991	900579	115.2	114.3	15.2	14.3	113.4	9.9
40-44	765738	603378	92.5	85.6	-7.5	-14.4	126.9	13.5
45-49	633848	508502	102.8	103.9	2.8	3.9	124.7	-2.3
50-54	467765	375830	98.3	95.1	-1.7	-4.9	124.5	-0.2
55-59	317679	281473	84.0	84.8	-16.0	-15.2	112.9	-11.6
60-64	288977	288107	113.6	122.0	13.6	22.0	100.3	-12.6
65-69	191204	190879	85.7	89.4	-14.3	-10.6	100.2	-0.1
70-74	157066	138963			0.0	0.0	113.0	12.9
75+	163338	141832					115.2	
Age ratio score for males				8.7				
Age ratio score for females				10.8				
Sex ratio score				6.8				
Age-sex accuracy index				39.8				

**Source: Census 2001*

#Obtained with the help of AGESEX.xls programme of UN Population Analysis Spreadsheets (PAS).

The second issue relates to the non-availability of age-sex data for 4 newly created districts, which were not there in 2001. It is, therefore, required that estimates for these districts needs to be based on the estimates for the other districts. The following approach is adopted to achieve a proxy estimates for these districts. The Census 2011 (Paper 1), inter alia, states that due to the creation of the 4 new districts, population figures of 12 districts got affected all together. The Census also provides "adjusted population for these districts in Paper 1, Table 1 (Annexure 2). This can be summed up as below:

District	Census 2001 Population	
	Adjusted	*Unadjusted*
Chirag	433061	NA
Kokrajhar	843243	905764
Bong	612665	904835
Barpeta	1394755	1647201
Baksa	857947	NA
Nalbari	689053	1148824
Kamrup	1311698	2522324
Darrang	759858	1504320
Kamrup M	1059578	NA
Dhubri	1566396	1637344
Sonitpur	1665125	1681513
Udalguri	758746	NA
Total	*11952125*	*11952125*

A little re-arrangement will show how these population (No.) figures are absorbed in newly created districts as shown under:

Districts	Dhubri	Kokrajhar	Bong	Barpeta	Nalbari	Kamrup	Darrang	Sonit	*Total*
Kokrajhar	70948	772295	--	--	--	--	--	--	*843243*
Chirang	--	--	292170	7422	--	--	--	--	*433061*
Baksa	--	--	--	245024	459771	151048	2104	--	--
Udalguri	--	--	--	--	--	--	742358	16388	*758746*
Kamrup M	--	--	--	--	--	1059578	--	--	*1059578*

It is, therefore, possible to derive a set of relative (population percentage) weights for these newly created districts with respect to their constituting original districts. These weights can be presented as following:

Districts	Dhubri	Kokrajhar	Bongaigaon	Barpeta	Nalbari	Kamrup	Darrang	Sonitpur	*Total*
Kokrajhar	8.41	91.59							*100.00*
Chirang		30.82	67.47	1.71					*100.00*
Baksa				28.56	53.59	17.61	0.25		*100.00*
Udalguri							97.84	2.16	*100.00*
Kamrup Metro						100.00			*100.00*

Using these weights any (population) parameter can be approximated provided values are available for the constituting districts. For example, the CDR of Baksa may be approximated as below given the CDRs of Barpeta, Nalbari, Kamrup and Darrang are given. Assuming that they are 6.7, 7.4, 5.9 and 8.3 respectively, the approximated CDR for Baksa is, thus, given as

$$= [(28.56)*(6.7) + (53.59)*(7.4) + (17.61)*(5.9) + (8.3)*(8.3)]/100=7.6$$

Using this table of relative weights, the key fertility and mortality indicators can be estimated for the 4 newly created districts. In absence of actual data, these serve as good working proxy for the districts. The section IV below presents all the estimates. But before that, the section III offers some reading of available secondary data on the key demographic indicators on children in Assam as a prelude to section IV.

Analysis of Key Demographic Attributes

As per the provisional population table of Census 2011 (Paper 2 Volume 1), the total child population (0-6) years in Assam is 4511307 – constituting 14.47 percent of the total population. *Like India, the share of child population in Assam too registers a decline from Census 2001 figure of 16.87. The decline is evidently sharper in urban areas (14.46 percent) than in rural areas (13.79 percent).* The shares of child population across the districts for both the census are presented in Table 1 below:

Table 1: Share of Child Population (0-6 years) in Census 2001 and 2011 (percent)

State/ District	Person 2001			Person 2011			Male 2001			Male 2011			Female 2001			Female 2011		
	T	*R*	*U*	*T*	*R*	*U*	*T*	*R*	*U*	*T*	*R*	*U*	*T*	*R*	*U*	*T*	*R*	*U*
Assam	16.9	17.7	11.4	14.5	15.2	9.8	16.6	17.5	11.0	14.5	15.2	9.7	17.2	17.9	11.9	14.5	15.3	9.9
Kokrajhar*	17.9	18.4	11.4	14.9	15.2	9.5	17.9	18.3	11.2	14.9	15.3	9.5	18.0	18.4	11.6	14.8	15.2	9.5
Dhubri*	20.9	21.9	13.4	18.4	19.3	10.8	20.7	21.7	13.3	18.3	19.1	11.0	21.1	22.1	13.6	18.5	19.5	10.7
Goalpara	19.4	19.9	13.6	16.4	16.9	13.6	19.2	19.7	13.3	16.5	16.9	13.7	19.5	20.0	13.9	16.4	16.8	13.5
Barpeta*	19.0	19.8	11.3	16.6	17.2	9.5	18.8	19.5	11.2	16.5	17.2	9.5	19.3	20.0	11.5	16.6	17.3	9.5
Marigaon	19.2	19.5	12.4	16.6	17.0	11.4	19.0	19.3	12.1	16.8	17.3	11.6	19.4	19.7	12.7	16.4	16.8	11.3
Nagaon	18.4	19.3	11.8	15.8	16.6	10.3	18.1	19.1	11.4	15.8	16.7	10.2	18.7	19.6	12.1	15.8	16.6	10.3
Sonitpur	16.2	16.9	10.3	13.9	14.3	9.5	15.9	16.7	9.5	13.8	14.2	9.3	16.6	17.2	11.3	14.0	14.4	9.7
Lakhimpur	16.9	17.2	13.4	14.5	14.8	11.0	16.8	17.1	13.2	14.6	14.9	11.1	17.1	17.3	13.7	14.4	14.8	11.0
Dhemaji	17.4	17.6	14.6	14.5	14.7	11.5	17.1	17.4	13.9	14.5	14.8	11.4	17.7	17.8	15.4	14.5	14.7	11.6

Tinsukia	16.1	17.2	11.2	13.3	14.2	9.7	15.7	16.9	10.8	13.1	14.0	9.7	16.5	17.6	11.8	13.5	14.4	9.7
Dibrugarh	14.6	15.6	10.2	11.7	12.3	8.8	14.3	15.5	9.9	11.6	12.3	8.8	14.8	15.7	10.7	11.7	12.3	8.9
Sibsagar	14.2	14.5	11.0	11.6	11.9	9.6	13.9	14.3	10.4	11.6	11.9	9.3	14.5	14.7	11.8	11.7	11.9	9.9
Jorhat	13.4	13.9	10.7	10.8	11.2	9.0	13.2	13.7	10.4	10.7	11.2	9.0	13.7	14.2	11.1	10.8	11.3	9.1
Golaghat	15.1	15.4	11.8	12.1	12.4	9.3	14.9	15.2	11.3	12.1	12.4	9.3	15.4	15.7	12.4	12.1	12.4	9.3
Karbi Anglong	18.5	19.0	14.5	19.1	20.1	11.1	18.0	18.6	13.9	19.5	20.6	10.9	19.0	19.4	15.2	18.6	19.6	11.2
Dima Hasao	16.4	18.0	12.8	14.9	16.4	11.1	15.8	17.8	11.7	14.7	16.4	10.5	17.1	18.3	14.1	15.1	16.3	11.8
Cachar	15.9	16.6	11.1	14.2	15.1	10.3	15.7	16.5	11.1	14.2	15.1	10.4	16.0	16.8	11.1	14.2	15.1	10.1
Karimganj	17.6	18.2	9.5	16.7	17.4	10.1	17.4	18.1	9.4	16.7	17.4	10.3	17.8	18.4	9.6	16.7	17.4	9.9
Hailakandi	18.6	19.2	12.0	16.6	17.2	9.2	18.7	19.3	11.9	16.6	17.2	9.4	18.5	19.1	12.1	16.6	17.2	9.0
Bongaigaon*	18.1	19.4	11.3	15.5	16.4	10.0	17.8	19.1	11.1	15.5	16.4	10.0	18.4	19.7	11.5	15.6	16.4	10.0
Chirang**	18.3	18.7	11.0	14.6	14.9	10.8	18.2	18.6	10.7	14.7	15.0	10.8	18.4	18.8	11.3	14.5	14.8	10.8
Kamrup*	15.6	15.8	10.8	12.9	13.3	8.7	15.4	15.6	10.6	12.8	13.1	8.9	15.9	16.1	10.9	13.0	13.4	8.5
Kamrup (M)**	11.8	14.8	11.1	9.6	12.1	9.0	11.3	14.6	10.5	9.2	11.9	8.7	12.4	15.1	11.8	9.9	12.2	9.5
Nalbari*	14.2	14.3	11.5	11.8	12.1	8.6	14.0	14.1	11.5	11.7	12.0	8.8	14.4	14.6	11.5	11.9	12.3	8.5
Baksa**	16.2	16.2	--	12.3	12.3	12.0	16.2	16.2	--	12.3	12.3	12.1	16.2	16.2	--	12.3	12.3	11.8
Darrang*	19.3	19.8	11.8	16.5	16.9	9.5	18.9	19.4	11.5	16.3	16.8	9.6	19.7	20.2	12.1	16.6	17.1	9.5
Udalguri**	16.5	16.7	11.4	13.1	13.3	9.3	16.3	16.6	10.8	13.1	13.3	9.2	16.7	16.9	12.1	13.1	13.3	9.5

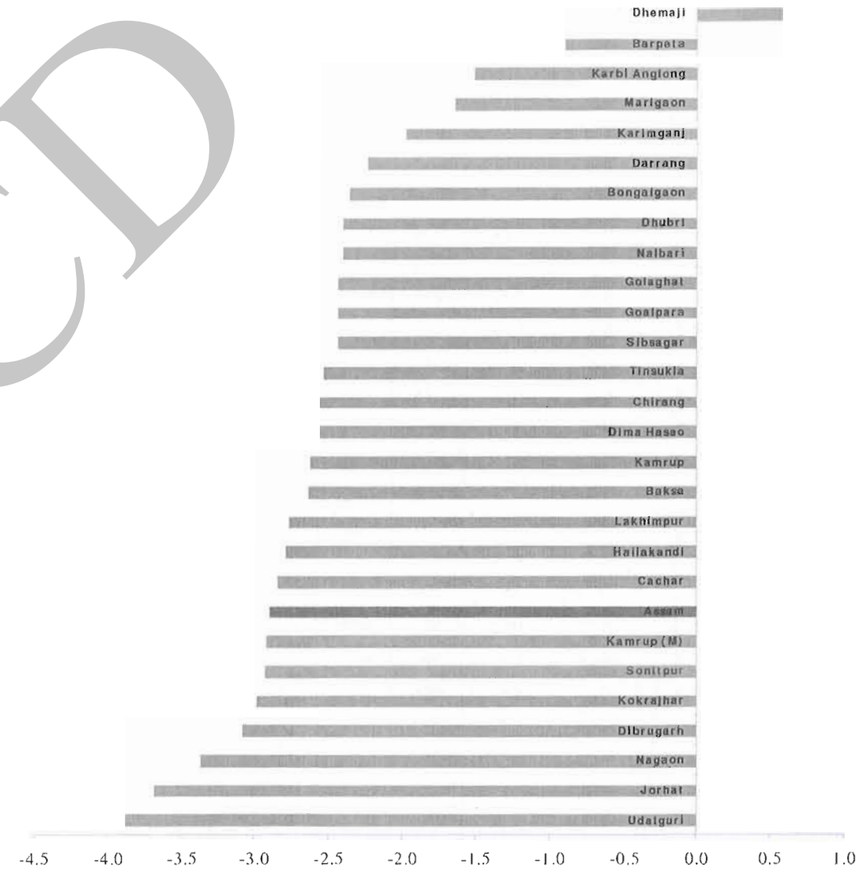
*Source: Census 2011 ** New Districts; * Population adjusted owing to creation of new districts*

It is interesting to note that *barring only one district viz. Dhemaji, all other districts of the state are showing a decline in the share of child population in the total population of the districts. The fall in the share of total child population is the highest in Udalguri and the lowest in Barpeta.* The decline across the districts is depicted in Figure 1 below.

The other important aspects worth noting are the sex-ratio in general and child-sex ratio in particular. From Census data it is observed that *during the period 2001-2011, except the district of Darrang, all other districts are showing increase in overall-all sex-ratios.*

The Table 2 below provides the district wise sex-ratios for 2001 and 2011. It is also evident from the table that *in terms of percentage gain in sex-ratio, Kamrup (M) tops the list of districts followed by Dima Hasao and Tinsukia.* The relative positions of districts in terms of percentage change in sex-ratio during 2001-2011 are shown in Figure 2. Data also indicate that *the increase in sex-ratio is basically coming through urban sector in all the districts.*

Figure 1: Changes in the share of child population across districts: 2001-2011



Census 2011 data also reveal that *the child-sex ratio in Assam is higher than the overall sex-ratio in the state.* Table 3 under provides child sex ratios of the districts for 2001 and 2011. *However, not all districts have higher child sex ratios relative to the overall sex-ratios. It is observed that 13 districts have lower child-sex ratios compared to over all sex ratios while the remaining 14 districts have higher child-sex ratios than the overall sex ratios.* The districts with lower child-sex ratios are: Goalpara, Nagaon, Dhemaji, Golaghat, Cachar, Karimganj, Dhubri, Barpeta, Tinsukia, Dibrugarh, Dima Hasao, Kamrup (M), Darrang. The districts which have higher child-sex ratios are: Kokrajhar, Marigaon, Lakhimpur,

Karbi Anglong, Chirang, Baksa, Udalguri, Sonitpur, Sibsagar, Jorhat, Hailakandi, Bongaigaon, Kamrup and Nalbari.

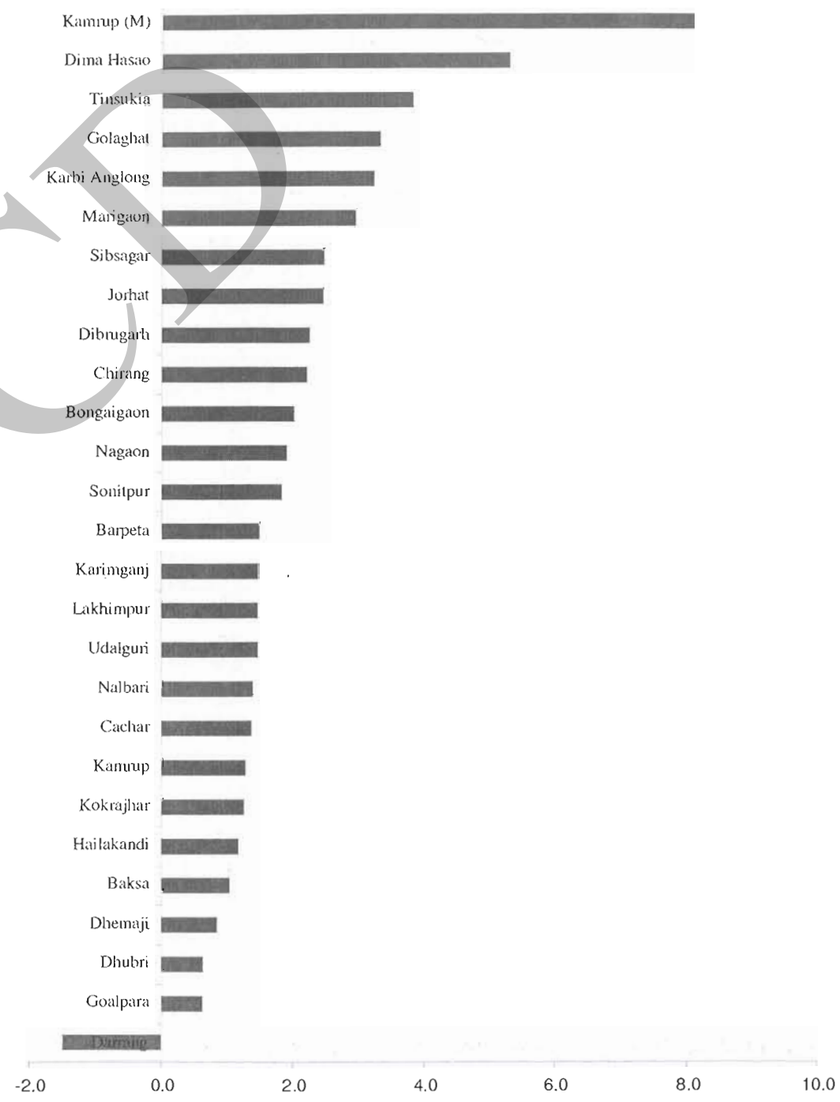
Table 2: Overall sex ratios in the districts: 2001-2011

State/ District Name	2001			2011			Change 2001-2011 %		
	T	*R*	*U*	*T*	*R*	*U*	*T*	*R*	*U*
Assam	935	944	872	954	956	937	2.0	1.3	7.5
Kokrajhar*	946	950	887	958	960	932	1.3	1.1	5.1
Dhubri*	946	947	935	952	951	958	0.6	0.4	2.5
Goalpara	956	958	937	962	961	970	0.6	0.3	3.5
Barpeta*	937	939	917	951	950	959	1.5	1.2	4.6
Marigaon	946	949	891	974	975	952	3.0	2.7	6.8
Nagaon	944	948	912	962	962	963	1.9	1.5	5.6
Sonitpur	929	947	791	946	948	925	1.8	0.1	16.9
Lakhimpur	951	957	879	965	968	938	1.5	1.1	6.7
Dhemaji	941	947	870	949	951	926	0.9	0.4	6.4
Tinsukia	913	930	847	948	958	909	3.8	3.0	7.3
Dibrugarh	931	952	851	952	959	924	2.3	0.7	8.6
Sibsagar	928	940	819	951	957	897	2.5	1.8	9.5
Jorhat	933	944	879	956	962	934	2.5	1.9	6.3
Golaghat	930	937	858	961	962	949	3.3	2.7	10.6
Karbi Anglong	926	932	878	956	962	915	3.2	3.2	4.2
Dima Hasao	884	920	812	931	953	880	5.3	3.6	8.4
Cachar	945	943	954	958	953	981	1.4	1.1	2.8
Karimganj	947	948	936	961	959	978	1.5	1.2	4.5
Hailakandi	935	933	957	946	943	992	1.2	1.1	3.7
Bongaigaon*	942	948	907	961	967	925	2.0	2.0	2.0
Chirang**	948	949	927	969	971	943	2.2	2.3	1.7
Kamrup*	934	935	915	946	944	965	1.3	1.0	5.5
Kamrup (M)**	853	929	835	922	952	916	8.1	2.5	9.7
Nalbari*	932	932	910	945	945	947	1.4	1.4	4.1
Baksa**	957	957	--	967	967	948	1.0	1.0	--
Darrang*	937	939	899	923	923	931	-1.5	-1.7	3.6
Udalguri**	952	958	839	966	966	962	1.5	0.8	14.7

*Source: Census 2011 ** New Districts; * Population adjusted owing to creation of new districts*

From the Table 3, it may also be observed that *unlike over-all sex ratios, there are 7 districts where there is a rise in child-sex ratio.* These districts are: Dhubri, Tinsukia, Dima Hasao, Hailakandi, Kamrup (M), Nalbari and Baksa.

Figure 2: District-wise percentage change in sex-ratios: 2001-2011



From the above analyses it has, thus, emerged that *during the Censuses of 2001-2011, in general, there is a pervasive decline in the share of child population (0-6 years) in the state accompanied by an ominous decline in the child-sex ratios.*

Table 3: Child sex ratios in the districts: 2001-2011

State/District Name	2001			2011		
	Total	*Rural*	*Urban*	*Total*	*Rural*	*Urban*
Assam	965	967	943	957	957	955
Kokrajhar*	955	957	914	951	952	938
Dhubri*	964	965	956	965	967	928
Goalpara	974	974	980	954	954	955
Barpeta*	961	962	947	955	955	958
Marigaon	966	967	930	950	952	929
Nagaon	975	976	965	958	958	968
Sonitpur	974	976	936	958	958	962
Lakhimpur	967	970	916	958	960	930
Dhemaji	970	970	965	945	945	938
Tinsukia	958	964	923	971	982	913
Dibrugarh	962	969	918	957	961	932
Sibsagar	968	971	928	957	958	950
Jorhat	967	972	937	963	967	944
Golaghat	963	965	936	961	962	943
Karbi Anglong	974	975	962	916	914	939
Dima Hasao	955	948	978	956	947	987
Cachar	961	961	953	955	956	952
Karimganj	965	966	954	958	959	943
Hailakandi	927	924	975	948	947	951
Bongaigaon*	972	977	934	965	970	920
Chirang**	958	957	981	958	959	941
Kamrup*	963	964	943	962	964	925
Kamrup (M)**	943	959	938	994	975	999
Nalbari*	961	963	911	963	967	911
Baksa**	961	961	--	962	963	925
Darrang*	977	977	950	941	941	925
Udalguri**	975	976	943	965	964	991

Source: Census 2011 ** *New Districts;* * *Population adjusted owing to creation of new districts*

The decadal growth of child-population during the period across districts (Table 4) has been provided below. It may be noted that *the overall growth of child population in the state is marginal and that of females is, in fact, negative.* In any case, whatever limited growth is witnessed is essentially emanating from urban areas. This, however, need not necessarily indicate high growth of child population in urban areas per se, since Census re-designates many erstwhile rural areas as urban infusing an inflator to observed growth. The pattern of growth in total child population can be is depicted in Figure 3.

The right panel of the Figure shows the districts where the growth rates are less than the state average and the left panel gives the districts where the growth rates are above the state average. The Figure shows that maximum growth of child population is taking place in the district of Karbi Anglong while in Baska it is the least.

Table 4: Decadal Growth of Child Population (0-6 years) during 2001-2011 (percent)

Sl No	State/ Districts	Person			Male			Female		
		Total	*Rural*	*Urban*	*Total*	*Rural*	*Urban*	*Total*	*Rural*	*Urban*
0	Assam	0.29	-0.56	9.15	0.70	-0.06	8.47	-0.12	-1.07	9.87
1	Kokrajhar*	-12.86	-12.93	-11.21	-12.68	-12.70	-12.28	-13.05	-13.17	-10.04
2	Dhubri*	9.82	11.98	-15.37	9.82	11.88	-14.14	9.82	12.09	-16.65
3	Goalpara	4.17	-1.99	105.82	5.22	-1.01	108.46	3.08	-3.00	103.14
4	Barpeta*	5.80	6.28	-2.57	6.11	6.64	-3.07	5.46	5.89	-2.04
5	Marigaon	6.94	4.62	77.87	7.79	5.45	78.00	6.07	3.77	77.72
6	Nagaon	4.68	3.79	15.42	5.57	4.76	15.24	3.77	2.79	15.61
7	Sonitpur	-1.17	-0.51	-10.44	-0.41	0.41	-11.61	-1.96	-1.45	-9.19
8	Lakhimpur	0.38	-0.54	15.14	0.83	-0.02	14.31	-0.09	-1.06	16.06
9	Dhemaji	0.15	0.25	-1.52	1.46	1.56	-0.17	-1.21	-1.10	-2.91
10	Tinsukia	-5.31	-6.33	1.17	-5.95	-7.19	1.70	-4.63	-5.43	0.59
11	Dibrugarh	-10.26	-10.66	-7.76	-10.05	-10.31	-8.43	-10.49	-11.02	-7.04
12	Sibsagar	-10.22	-10.87	-1.90	-9.73	-10.26	-3.04	-10.73	-11.49	-0.66
13	Jorhat	-12.23	-15.35	7.34	-12.04	-15.13	6.94	-12.42	-15.58	7.77
14	Golaghat	-10.19	-10.55	-5.26	-10.10	-10.43	-5.61	-10.29	-10.68	-4.88
15	Karbi Anglong	22.39	25.07	-5.20	26.08	29.03	-4.10	18.60	21.01	-6.35
16	Dima Hasao	3.09	7.59	-10.64	3.07	7.64	-11.07	3.10	7.54	-10.20
17	Cachar	7.68	3.62	45.28	7.97	3.91	45.40	7.38	3.33	45.15
18	Karimganj	14.53	12.70	59.05	14.92	13.06	59.98	14.12	12.33	58.08
19	Hailakandi	8.48	9.82	-15.88	7.33	8.53	-14.86	9.71	11.22	-16.93
20	Bongaigaon*	2.62	3.81	-8.19	2.98	4.16	-7.48	2.25	3.45	-8.95
21	Chirang**	-11.23	-13.05	39.12	-11.27	-13.16	41.94	-11.19	-12.93	36.24
22	Kamrup*	-4.80	-8.03	97.86	-4.72	-8.04	99.75	-4.88	-8.02	95.85
23	Kamrup (M)**	-3.60	-16.18	0.56	-6.05	-16.85	-2.52	-1.01	-15.49	3.84
24	Nalbari*	-7.43	-11.86	125.78	-7.49	-12.05	125.76	-7.36	-11.67	125.82
25	Baksa**	-15.46	-16.51	--	-15.55	-16.61	--	-15.38	-16.40	--
26	Darrang*	1.93	1.74	7.32	3.81	3.63	8.68	0.00	-0.20	5.89
27	Udalguri**	-12.64	-12.81	-7.43	-12.19	-12.27	-9.67	-13.11	-13.35	-5.07

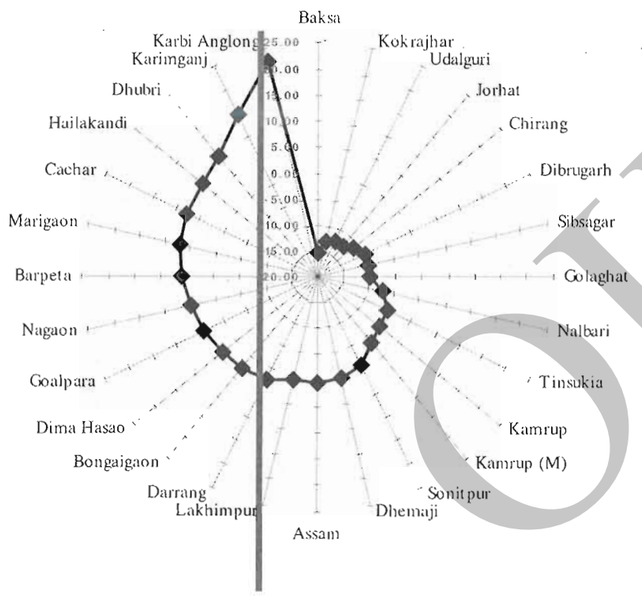
Source: Census 2011 ** *New Districts;* * *Population adjusted owing to creation of new districts*

Assuming that effect of migration over growth of child population is going to be minimal the observed growth in child population in the districts can be seen as the difference between the fertility and child-mortality. The reason, therefore, for this differential growth can be analysed at two levels - increase (or decrease) in fertility and/or decrease (or increase) in child mortality i.e. IMR or U5 Mortality in the districts.

The most recent fertility and mortality data for the state as a whole is given by SRS Bulletin - October 2012. It provides that for the years 2011, Assam's Birth Rate (CBR) has been 22.8. In rural areas it is 24 and in urban areas it is 15.5. The corresponding figures for the country are 21.8, 23.3 and 17.6 respectively.

The SRS 2012 (October) also reveals that the IMR in the state as a whole is 55 and in rural areas it is 58. The urban areas, however, has an IMR of 34. *Evidently, the IMRs of Assam are higher than the national estimates* of 44, 48 and 29 respectively. Moreover, *it is also found that in all cases female IMR is more than that of male.*

Figure 3: Growth in child population across districts: 2001-2011



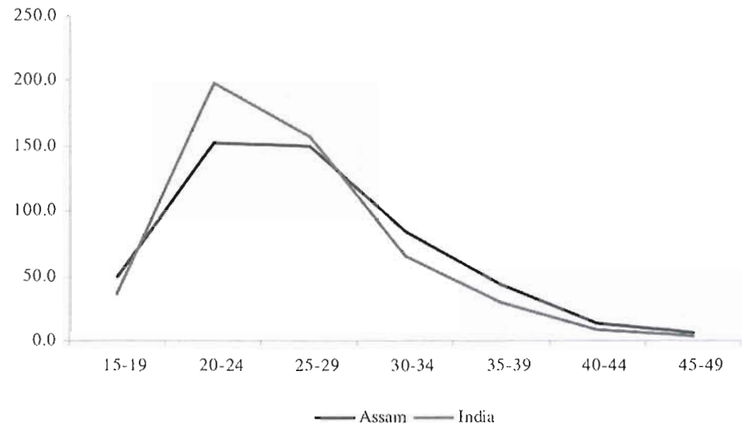
The full SRS Statistical Report is available for the year 2010. It provides some other fertility information, of course, for the state as a whole. As per the Report, *the GFR in the state is 84.9 and TFR is 2.5. In rural areas, these rates are on a higher side i.e. 91 and 2.7 respectively. In urban areas the rates are pretty low – 52.8 and 1.6 only*. The Report also gives age specific fertility rates for Assam – for rural as well as for urban sector. The rates are provided in Table 5 below.

Table 5: Age Specific Fertility Rates: Assam Vs India (2010)

Ages	Assam			India		
	Total	*Rural*	*Urban*	*Total*	*Rural*	*Urban*
15-19	50.0	54.1	21.7	37.2	43.1	19.6
20-24	152.8	161.0	103.6	198.6	218.5	147.3
25-29	149.6	158.1	107.9	156.8	167.5	132.9
30-34	84.2	91.6	48.1	66.0	70.1	56.2
35-39	43.9	47.9	25.3	29.7	34.5	18.1
40-44	13.7	15.4	6.0	9.3	11.6	3.8
45-49	5.6	6.4	2.0	3.9	5.2	1.0

The fertility curve as presented in the Figure 4 would indicate that *there are two high fertile cohorts in Assam compared to single such cohort in India. Within the high fertile cohorts, the fertility in Assam, although, stays lower than that of the country, as a whole, the state witnesses longer fertility profile. Further, it is indicated that with education fertility cohort shifts to the right-side of the reproductive scale exerting a downward pressure on the total fertility (TFR).*

Figure 4: Fertility schedule curve: Assam and India



It is possible to compile the vital rates for the state over a longer period of time to observe long run trends therein. The Table 6 gives the birth rates for about 20 years since 1992. The Table 7 gives the 20 years time series data on TFR and Table 8 gives 20 years time series data on IMR.

Table 6: Birth Rates 1992-2011: Assam and India

Year	Assam			India		
	Total	*Rural*	*Urban*	*Total*	*Rural*	*Urban*
1992	30.8	31.5	21.4	29.2	30.9	23.1
1993	29.5	30.4	23.6	28.7	30.4	23.7
1994	30.7	31.8	22.2	28.7	30.5	23.1
1995	29.3	30.2	21.8	28.3	30	22.7
1996	27.6	28.9	20.7	27.5	29.3	21.6
1997	28.2	29	20.7	27.2	28.9	21.5
1998	27.9	28.7	20.2	26.5	28	21
1999	27	28	18.9	26.1	27.6	20.8
2000	26.9	27.9	18.6	25.8	27.6	20.7
2001	27	27.9	18.6	25.4	27.1	20.3
2002	26.6	27.5	18.3	25	26.6	20
2003	25.1	27	14.3	24.8	26.4	19.8
2004	25.1	27	14.3	24.1	25.9	19
2005	25	26.6	15.3	23.8	25.6	19.1
2006	24.6	26.1	15.4	23.5	25.2	18.8
2007	23.9	25.3	15.7	23.1	24	18.6
2008	23.6	24.9	15.9	22.8	24.4	18.5
2009	23.6	24.9	15.9	22.5	24.1	18.3
2010	23.2	24.4	15.8	22.1	23.7	18
2011	22.8	24	15.5	21.8	23.3	17.6

**Source: SRS various Years*

Table 7: Time Series Data on TFR: 1991-2010

Year	Assam			India		
	Total	Rural	Urban	Total	Rural	Urban
1991	3.5	3.6	2.1	3.6	3.9	2.7
1992	3.4	3.6	2.1	3.6	3.9	2.6
1993	3.3	3.4	2.5	3.5	3.8	2.8
1994	3.8	4	2.4	3.5	3.8	2.7
1995	3.5	3.7	2.2	3.5	3.9	2.6
1996	3.2	3.4	2.1	3.4	3.7	2.4

1997	3.2	3.4	2.1	3.3	3.6	2.4
1998	3.2	3.4	2	3.2	3.5	2.4
1999	3.2	3.3	1.9	3.2	3.5	2.3
2000	3.1	3.3	1.8	3.2	3.5	2.3
2001	3	3.2	1.8	3.1	—	—
2002	3	3.1	1.8	3	—	—
2003	2.9	3	1.8	3	3.2	2.2
2004	2.9	3.2	1.5	2.9	3.3	2.1
2005	2.9	3.1	1.6	2.9	3.2	2.1
2006	2.7	3.0	1.6	2.8	3.1	2.0
2007	2.7	2.9	1.5	2.7	3.0	2.0
2008	2.6	2.8	1.5	2.6	2.9	2.0
2009	2.6	2.8	1.6	2.6	2.9	2.0
2010	2.5	2.7	1.6	2.5	2.8	1.9

**Source: Central Bureau of Health Information: Various Years Reports*

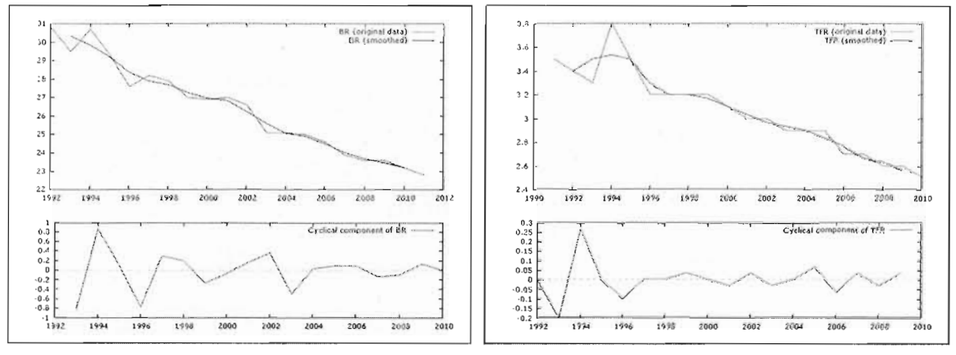
Table 8: Time Series Data on IMR: Assam (1991-2011)

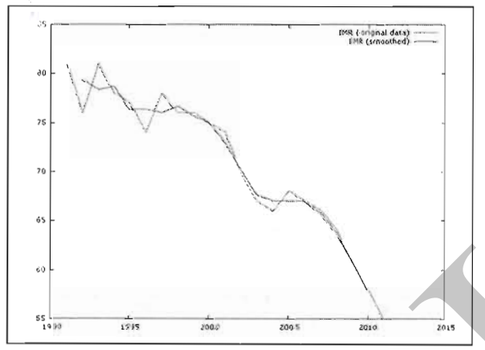
Year	Combined	Rural	Urban
1991	81	83	42
1992	76	77	50
1993	81	84	60
1994	78	78	76
1995	77	78	59
1996	74	79	37
1997	78	82	36
1998	76	80	36
1999	76	79	36
2000	75	78	35
2001	74	77	34
2002	70	73	38
2003	67	70	35
2004	66	69	38
2005	68	71	39
2006	67	70	42
2007	66	68	41
2008	64	66	39
2009	61	64	37
2010	58	60	36
2011	55	58	34

**Source: SRS various Years*

One simple way to detect and determine long run trend in time series is to apply moving average (MA) method (centred) to the given time series data. In order to detect the secular, long term trend within the three data sets on vital events viz. BR, TFR, IMR, 3 year moving average is applied on. The long term secular trends thus obtained along with yearly component of cyclical variations are given in Figure 5.

Figure 5: Long run trends in BR, TFR and IMR in Assam (1991-2011)





All three series viz. BR, TFR, IMR indicate a secular long run decline during 1991-2011. During 2001-2011, the BR and TFR display a steady downward trend. However, decline in IMR is a sharp one, particularly during 2001-2011 with an accelerated pace from 2005 onwards.

Indirectly Estimated District Level Attributes and their Disaggregation

The Annual Health Survey (2010) provides CBR, TFR, IMR and under 5 mortality rates for 23 districts of Assam. These data are disaggregated in two domains rural-urban and male-female. It is however, required that more disaggregation is required for directing

policy focus. This section provides estimates of CBR, GFR, ASFR, TFR and IMR at the district levels disaggregated for additional three domains viz. SC-ST, religion and level of education. These estimated are obtained using indirect demographic estimation methods on the basis of F series Census data for 2001 as described in section II. The estimates are presented under:

Table 9: Disaggregated District Level Indirect Estimates of Crude Birth Rates: 2001

State/District	Spatial			Caste		Religion			Education	
	Total	*Rural*	*Urban*	*SC*	*ST*	*Hindu*	*Muslim*	*Christian*	*Literate*	*Illiterate*
Assam	34.8	36.2	25.5	34.0	34.9	30.7	42.9	36.6	28.7	38.6
Kokrajhar	35.9	36.8	24.2	34.0	34.8	33.4	44.1	36.2	25.5	41.9
Dhubri	41.7	43.2	29.7	32.1	32.0	29.1	45.8	32.0	32.8	44.8
Goalpara	38.7	39.5	29.1	32.7	32.2	30.4	44.3	38.7	33.1	40.6
Bongaigaon	35.6	37.2	24.2	33.3	31.4	29.4	44.1	36.3	27.4	40.0
Barpeta	36.6	37.6	24.3	31.6	32.7	28.1	41.9	41.2	28.3	40.3
Kamrup	30.3	33.7	24.7	32.8	30.8	27.4	38.6	37.3	27.5	31.6
Nalbari	32.6	32.8	27.8	33.0	33.0	30.4	39.6	40.9	28.2	35.0
Darrang	36.8	37.3	26.8	33.4	31.6	30.5	46.1	35.3	27.8	41.0
Marigaon	37.8	38.3	27.4	36.2	33.9	32.1	43.7	40.1	33.0	38.7
Nagaon	37.4	38.7	27.1	33.2	34.3	29.5	44.6	35.3	32.0	40.1
Sonitpur	33.6	34.8	24.1	32.4	33.7	31.3	43.3	35.4	24.9	39.5
Lakhimpur	35.3	35.8	29.2	38.3	36.8	33.2	42.4	40.5	30.8	37.9
Dhemaji	36.4	36.9	30.5	35.2	38.6	36.2	64.7	35.9	30.1	40.4
Tinsukia	31.5	33.4	23.7	31.5	34.1	31.3	30.6	35.3	25.3	36.4
Dibrugarh	30.1	31.8	24.5	30.6	28.1	30.0	30.0	33.5	25.8	34.3
Sibsagar	31.1	31.6	26.3	34.7	34.0	31.1	29.7	36.1	28.7	32.2
Jorhat	28.9	29.8	24.9	34.4	33.1	29.0	27.3	28.0	27.0	29.8
Golaghat	30.9	31.5	25.1	33.3	33.9	30.6	33.6	32.7	26.8	34.4
Karbi Anglong	39.6	40.3	33.8	35.8	42.5	39.2	38.6	41.6	30.3	45.8
NC Hills	35.2	39.1	30.9	31.3	38.7	34.1	31.8	38.2	29.6	98.4
Cachar	33.8	35.2	24.6	35.4	30.6	30.4	40.4	34.6	30.4	36.1
Karimganj	37.4	38.8	21.5	36.2	40.5	30.2	44.1	38.0	32.9	40.3
Hailakandi	37.7	38.7	26.3	36.1	27.6	32.6	41.7	37.2	32.5	40.8

Table 10: Disaggregated District Level Indirect Estimates of GFR: 2001

State/District	Spatial			Caste		Religion			Education	
	T	*R*	*U*	*SC*	*ST*	*Hindu*	*Muslim*	*Christian*	*Literate*	*Illiterate*
Assam	141.1	149.3	93.3	139.7	134.8	118.2	196.8	145.4	110.2	166.8
Kokrajhar	146.5	151.8	86.6	142.8	132.7	132.0	203.7	145.2	110.0	164.3
Dhubri	183.5	194.6	111.7	131.2	120.9	112.0	212.0	128.1	139.2	201.9
Goalpara	164.6	170.1	107.7	134.0	122.1	116.7	204.5	160.5	128.0	188.8
Bongaigaon	148.2	158.8	85.4	145.9	115.1	113.3	210.5	139.7	109.6	172.9
Barpeta	158.1	164.4	90.3	133.3	121.2	105.7	201.1	167.0	116.5	181.4
Kamrup	116.9	134.9	89.8	129.9	114.3	101.9	168.0	145.3	98.6	141.8
Nalbari	128.9	129.8	97.9	134.0	122.7	116.0	177.5	167.8	108.3	143.2
Darrang	149.9	152.8	99.4	139.4	114.5	116.1	215.7	132.6	111.0	170.2
Marigaon	161.7	165.2	100.0	153.7	132.0	125.2	208.5	193.7	128.9	180.9
Nagaon	158.0	167.2	99.5	135.0	129.0	112.7	210.2	140.6	120.8	192.6
Sonitpur	133.8	139.5	91.2	128.7	133.8	121.7	199.8	137.6	99.8	156.8
Lakhimpur	140.6	143.4	109.1	155.3	148.1	128.6	195.4	169.1	114.1	168.2
Dhemaji	149.7	152.4	117.9	156.8	159.2	148.6	203.4	147.6	121.6	169.3
Tinsukia	124.1	133.8	89.5	125.2	134.0	123.3	125.9	138.9	100.4	142.3
Dibrugarh	113.7	121.7	87.5	119.4	98.5	113.3	111.9	129.1	94.2	136.4
Sibsagar	117.5	119.9	97.5	133.0	131.5	117.7	109.2	141.8	100.6	141.6
Jorhat	107.9	112.1	89.4	135.3	126.3	108.2	103.5	106.3	94.5	127.7
Golaghat	120.1	122.9	93.5	131.6	135.4	118.5	133.2	132.3	99.5	143.0
Karbi Anglong	165.5	170.6	129.5	166.3	175.8	164.4	170.8	172.1	128.8	189.3
NC Hills	141.2	160.8	118.1	127.8	154.4	137.5	151.5	149.5	114.1	171.8
Cachar	135.5	144.1	87.6	147.8	112.5	117.1	172.9	139.9	114.9	157.5
Karimganj	158.2	166.8	74.5	152.8	176.1	117.6	201.5	162.5	131.5	183.5
Hailakandi	161.1	168.4	95.0	147.7	112.3	127.9	190.4	164.1	133.7	181.3

Table 11: Disaggregated District Level Indirect Estimates of TFR: 2001

State/District	Spatial			Caste		Religion			Education	
	Total	*Rural*	*Urban*	*SC*	*ST*	*Hindu*	*Muslim*	*Christian*	*Literate*	*Illiterate*
Assam	4.49	4.76	2.90	4.47	4.35	3.75	6.22	4.81	3.37	5.44
Kokrajhar	4.69	4.87	2.68	4.57	4.30	4.28	6.31	4.72	3.38	5.27
Dhubri	5.74	6.09	3.45	4.07	3.73	3.51	6.62	4.16	4.08	6.43
Goalpara	5.18	5.36	3.28	4.20	3.95	3.70	6.34	5.41	3.91	6.04
Bongaigaon	4.65	4.98	2.67	4.61	3.61	3.55	6.55	4.58	3.22	5.59
Barpeta	4.95	5.14	2.80	4.18	3.79	3.32	6.24	5.46	3.44	5.83
Kamrup	3.65	4.24	2.77	4.08	3.54	3.16	5.26	4.87	2.96	4.75

Nalbari	4.06	4.09	3.11	4.25	3.87	3.66	5.54	5.44	3.27	4.79
Darrang	4.73	4.82	3.03	4.40	3.56	3.66	6.76	4.29	3.29	5.50
Marigaon	5.14	5.26	2.98	4.92	4.14	3.94	6.66	6.62	3.94	5.86
Nagaon	5.03	5.33	3.09	4.29	4.14	3.57	6.70	4.56	3.71	6.19
Sonitpur	4.29	4.49	2.80	4.10	4.32	3.89	6.41	4.58	3.05	5.11
Lakhimpur	4.46	4.56	3.37	4.95	4.91	4.09	6.10	5.53	3.42	5.61
Dhemaji	4.81	4.91	3.67	4.83	5.28	4.77	6.70	4.77	3.71	5.62
Tinsukia	3.92	4.22	2.85	3.97	4.16	3.89	3.96	4.50	2.99	4.67
Dibrugarh	3.60	3.87	2.75	3.73	3.14	3.58	3.59	4.09	2.87	4.48
Sibsagar	3.73	3.82	2.95	4.24	4.42	3.73	3.41	4.68	3.10	4.72
Jorhat	3.42	3.56	2.81	4.29	4.17	3.43	3.32	3.37	2.93	4.33
Golaghat	3.82	3.92	2.84	4.23	4.48	3.76	4.22	4.40	3.03	4.76
Karbi Anglong	5.45	5.64	4.10	5.21	5.92	5.39	5.37	5.88	4.15	6.16
NC Hills	4.67	5.45	3.86	4.08	5.31	4.45	4.50	5.29	3.63	6.03
Cachar	4.46	4.76	2.82	4.90	3.78	3.83	5.73	4.85	3.75	5.23
Karimganj	5.20	5.49	2.38	5.13	6.54	3.90	6.57	5.47	4.28	6.06
Hailakandi	5.29	5.54	3.09	4.85	3.49	4.19	6.27	5.73	4.34	5.97

Table 12: Disaggregated District Level Indirect Estimates of ASFR: 2001

Criteria	State/ District	Age-group	Assam	Kokrajhar	Dhubri	Goalpara	Bongaigaon	Barpeta	Kamrup	Nalbari	Darrang	Marigaon	Nagaon	Sonitpur	Lakhimpur	Dhemaji	Tinsukia	Dibrugarh	Sibsagar	Jorhat	Golaghat	Karbi Anglong	NC Hills	Cachar	Karimganj	Hailakandi
Spatial	Total	15-19	0.055	0.057	0.097	0.075	0.065	0.061	0.045	0.046	0.061	0.068	0.060	0.052	0.068	0.056	0.053	0.044	0.045	0.047	0.052	0.049	0.031	0.030	0.043	0.047
		20-24	0.222	0.232	0.288	0.259	0.249	0.249	0.183	0.199	0.232	0.248	0.242	0.210	0.216	0.239	0.221	0.192	0.190	0.178	0.202	0.236	0.190	0.196	0.228	0.247
		25-29	0.237	0.234	0.280	0.261	0.240	0.251	0.205	0.237	0.247	0.253	0.257	0.231	0.231	0.265	0.215	0.198	0.209	0.190	0.212	0.266	0.255	0.254	0.275	0.282
		30-34	0.173	0.177	0.216	0.197	0.170	0.191	0.139	0.158	0.181	0.200	0.198	0.166	0.170	0.177	0.133	0.131	0.145	0.125	0.134	0.216	0.207	0.199	0.224	0.220
		35-39	0.099	0.110	0.131	0.124	0.103	0.111	0.073	0.081	0.105	0.119	0.115	0.093	0.095	0.096	0.069	0.064	0.068	0.062	0.074	0.147	0.131	0.108	0.141	0.130
		40-44	0.067	0.082	0.092	0.076	0.066	0.078	0.046	0.050	0.075	0.091	0.080	0.064	0.064	0.072	0.049	0.049	0.048	0.047	0.052	0.102	0.080	0.068	0.084	0.081
		45-49	0.044	0.046	0.045	0.044	0.036	0.049	0.039	0.041	0.046	0.050	0.054	0.044	0.049	0.057	0.043	0.043	0.040	0.036	0.037	0.073	0.041	0.036	0.045	0.051
	Rural	15-19	0.058	0.058	0.104	0.076	0.069	0.063	0.052	0.047	0.062	0.069	0.063	0.055	0.069	0.056	0.058	0.048	0.046	0.049	0.052	0.050	0.031	0.031	0.045	0.049
		20-24	0.233	0.238	0.302	0.265	0.265	0.258	0.216	0.200	0.235	0.253	0.255	0.218	0.220	0.241	0.237	0.205	0.194	0.187	0.209	0.241	0.204	0.208	0.240	0.258
		25-29	0.249	0.242	0.293	0.268	0.251	0.258	0.236	0.239	0.250	0.258	0.269	0.240	0.235	0.269	0.229	0.208	0.213	0.197	0.216	0.274	0.283	0.270	0.288	0.294
		30-34	0.184	0.184	0.230	0.204	0.184	0.198	0.158	0.159	0.184	0.205	0.209	0.173	0.175	0.182	0.143	0.137	0.148	0.128	0.136	0.223	0.245	0.213	0.238	0.230
		35-39	0.107	0.115	0.142	0.131	0.112	0.117	0.087	0.081	0.108	0.122	0.125	0.099	0.098	0.100	0.077	0.068	0.070	0.064	0.078	0.155	0.171	0.117	0.150	0.137
		40-44	0.074	0.088	0.099	0.080	0.074	0.083	0.056	0.051	0.078	0.094	0.087	0.068	0.066	0.075	0.055	0.052	0.051	0.050	0.054	0.109	0.105	0.074	0.090	0.085
		45-49	0.047	0.049	0.049	0.047	0.041	0.052	0.043	0.041	0.047	0.052	0.058	0.046	0.050	0.059	0.046	0.057	0.041	0.037	0.038	0.074	0.052	0.038	0.048	0.054

	Urban	15-19	0.035	0.039	0.057	0.065	0.039	0.033	0.031	0.033	0.038	0.052	0.038	0.026	0.052	0.048	0.034	0.026	0.033	0.036	0.042	0.043	0.024	0.024	0.018	0.022
		20-24	0.151	0.163	0.198	0.204	0.146	0.154	0.135	0.172	0.167	0.163	0.164	0.150	0.177	0.213	0.160	0.140	0.150	0.138	0.132	0.202	0.167	0.137	0.102	0.147
		25-29	0.171	0.150	0.186	0.179	0.176	0.173	0.160	0.164	0.198	0.186	0.183	0.175	0.195	0.218	0.167	0.166	0.187	0.159	0.181	0.212	0.208	0.169	0.156	0.176
		30-34	0.114	0.095	0.126	0.117	0.096	0.109	0.111	0.133	0.119	0.105	0.127	0.114	0.112	0.124	0.101	0.111	0.118	0.114	0.115	0.166	0.168	0.119	0.092	0.142
		35-39	0.052	0.049	0.065	0.045	0.047	0.045	0.053	0.052	0.042	0.047	0.052	0.042	0.060	0.052	0.046	0.050	0.055	0.051	0.041	0.090	0.095	0.056	0.056	0.059
		40-44	0.031	0.024	0.041	0.034	0.020	0.024	0.031	0.002	0.030	0.032	0.030	0.030	0.043	0.042	0.028	0.028	0.018	0.033	0.027	0.050	0.067	0.032	0.028	0.045
		45-49	0.026	0.015	0.016	0.013	0.010	0.020	0.032	0.066	0.013	0.011	0.024	0.023	0.036	0.037	0.034	0.028	0.030	0.031	0.029	0.059	0.042	0.025	0.023	0.026
Caste	SC	15-19	0.057	0.054	0.081	0.066	0.079	0.058	0.053	0.055	0.069	0.065	0.054	0.059	0.105	0.104	0.054	0.064	0.048	0.077	0.075	0.064	0.061	0.029	0.031	0.035
		20-24	0.235	0.270	0.252	0.245	0.263	0.241	0.208	0.222	0.232	0.246	0.232	0.223	0.255	0.292	0.244	0.227	0.234	0.241	0.244	0.321	0.194	0.215	0.226	0.228
		25-29	0.240	0.242	0.217	0.245	0.241	0.229	0.230	0.241	0.243	0.253	0.240	0.231	0.240	0.234	0.228	0.195	0.221	0.221	0.189	0.248	0.233	0.261	0.282	0.260
		30-34	0.168	0.140	0.127	0.137	0.150	0.145	0.153	0.168	0.164	0.182	0.156	0.138	0.167	0.158	0.116	0.117	0.169	0.142	0.143	0.208	0.157	0.220	0.228	0.218
		35-39	0.089	0.089	0.061	0.066	0.092	0.076	0.080	0.074	0.085	0.109	0.080	0.079	0.093	0.089	0.042	0.054	0.063	0.064	0.069	0.090	0.124	0.126	0.130	0.111
		40-44	0.062	0.077	0.051	0.048	0.062	0.042	0.051	0.041	0.060	0.077	0.053	0.051	0.074	0.038	0.082	0.049	0.042	0.061	0.077	0.086	0.025	0.084	0.072	0.083
		45-49	0.044	0.043	0.025	0.034	0.035	0.044	0.040	0.049	0.028	0.053	0.043	0.041	0.055	0.051	0.029	0.042	0.071	0.053	0.050	0.025	0.022	0.045	0.057	0.035
	ST	15-19	0.045	0.034	0.052	0.047	0.040	0.050	0.059	0.056	0.044	0.060	0.051	0.044	0.047	0.042	0.041	0.033	0.049	0.042	0.055	0.046	0.027	0.021	0.051	0.038
		20-24	0.206	0.199	0.196	0.192	0.185	0.209	0.205	0.203	0.201	0.219	0.206	0.207	0.211	0.229	0.209	0.166	0.187	0.195	0.225	0.229	0.188	0.113	0.209	0.237
		25-29	0.233	0.231	0.224	0.213	0.210	0.204	0.189	0.217	0.206	0.224	0.227	0.230	0.258	0.296	0.238	0.167	0.229	0.207	0.243	0.282	0.276	0.238	0.270	0.110

		30-34	0.167	0.170	0.144	0.153	0.150	0.131	0.112	0.133	0.127	0.154	0.149	0.172	0.193	0.213	0.162	0.106	0.163	0.164	0.147	0.239	0.2	0.20	0.31	0.13
		35-39	0.093	0.097	0.071	0.075	0.067	0.066	0.058	0.063	0.054	0.072	0.072	0.099	0.124	0.111	0.078	0.050	0.090	0.090	0.077	0.173	0.1	0.10	0.12	0.03
		40-44	0.069	0.083	0.032	0.061	0.045	0.045	0.040	0.045	0.037	0.057	0.064	0.062	0.078	0.087	0.059	0.028	0.063	0.078	0.070	0.128	0.1	0.05	0.16	0.09
		45-49	0.057	0.046	0.029	0.049	0.025	0.053	0.045	0.055	0.045	0.042	0.059	0.050	0.073	0.077	0.044	0.078	0.102	0.058	0.078	0.089	0.0	0.01	0.17	0.05
Religion	Hindu	15-19	0.043	0.042	0.054	0.047	0.048	0.035	0.035	0.039	0.042	0.052	0.042	0.045	0.058	0.055	0.054	0.045	0.045	0.046	0.051	0.050	0.0	0.02	0.02	0.02
		20-24	0.190	0.206	0.206	0.194	0.200	0.166	0.161	0.175	0.196	0.207	0.182	0.194	0.203	0.238	0.223	0.191	0.191	0.178	0.198	0.237	0.1	0.16	0.16	0.18
		25-29	0.211	0.220	0.202	0.210	0.204	0.196	0.188	0.224	0.210	0.215	0.203	0.220	0.221	0.263	0.213	0.196	0.210	0.192	0.210	0.266	0.2	0.22	0.22	0.23
		30-34	0.144	0.168	0.121	0.138	0.130	0.134	0.124	0.148	0.136	0.148	0.139	0.150	0.154	0.175	0.131	0.129	0.145	0.127	0.131	0.212	0.1	0.17	0.18	0.18
		35-39	0.075	0.097	0.059	0.072	0.067	0.063	0.058	0.070	0.069	0.075	0.069	0.079	0.081	0.095	0.067	0.063	0.068	0.062	0.074	0.139	0.1	0.09	0.10	0.10
		40-44	0.050	0.075	0.039	0.046	0.036	0.039	0.034	0.040	0.046	0.054	0.044	0.051	0.055	0.071	0.048	0.049	0.048	0.046	0.052	0.102	0.0	0.05	0.05	0.06
		45-49	0.037	0.047	0.022	0.034	0.025	0.031	0.032	0.037	0.033	0.037	0.033	0.039	0.047	0.056	0.043	0.044	0.040	0.034	0.036	0.071	0.0	0.03	0.03	0.03
	Muslim	15-19	0.086	0.125	0.115	0.104	0.101	0.084	0.078	0.077	0.106	0.090	0.082	0.095	0.130	0.094	0.062	0.038	0.048	0.055	0.064	0.103	0.0	0.04	0.06	0.06
		20-24	0.298	0.322	0.318	0.313	0.334	0.310	0.259	0.289	0.303	0.300	0.308	0.304	0.289	0.323	0.216	0.204	0.185	0.187	0.231	0.254	0.2	0.25	0.29	0.29
		25-29	0.299	0.288	0.309	0.301	0.307	0.296	0.262	0.283	0.311	0.304	0.316	0.287	0.266	0.308	0.198	0.188	0.185	0.160	0.213	0.249	0.2	0.31	0.32	0.32
		30-34	0.240	0.221	0.252	0.236	0.234	0.236	0.189	0.196	0.258	0.262	0.264	0.242	0.230	0.210	0.132	0.137	0.127	0.100	0.163	0.203	0.1	0.25	0.27	0.25
		35-39	0.153	0.147	0.161	0.162	0.161	0.148	0.118	0.118	0.174	0.173	0.171	0.157	0.149	0.116	0.091	0.051	0.065	0.049	0.069	0.132	0.0	0.13	0.18	0.15
		40-44	0.108	0.108	0.114	0.099	0.119	0.110	0.084	0.087	0.130	0.135	0.119	0.126	0.096	0.140	0.061	0.047	0.037	0.051	0.047	0.057	0.0	0.08	0.11	0.09
		45-49																					0.0	0.04	0.06	0.06

		45-49	0.061	0.052	0.056	0.053	0.060	0.064	0.062	0.058	0.070	0.065	0.080	0.069	0.061	0.038	0.052	0.034	0.062	0.057	0.075	0.0	0.04	0.05	0.06
Education	Christian	15-19	0.040	0.036	0.077	0.049	0.042	0.043	0.045	0.036	0.034	0.125	0.028	0.045	0.149	0.040	0.033	0.040	0.055	0.038	0.039	0.0	0.02	0.04	0.04	0.06
		20-24	0.204	0.228	0.202	0.218	0.185	0.227	0.166	0.242	0.187	0.118	0.232	0.194	0.215	0.231	0.190	0.201	0.168	0.222	0.231	0.1	0.19	0.21	0.21
		25-29	0.256	0.241	0.187	0.265	0.241	0.249	0.241	0.290	0.244	0.516	0.280	0.246	0.306	0.302	0.257	0.241	0.254	0.183	0.264	0.276	0.2	0.28	0.27	0.26
		30-34	0.199	0.183	0.169	0.243	0.221	0.295	0.220	0.221	0.189	0.075	0.170	0.188	0.230	0.204	0.170	0.168	0.195	0.110	0.151	0.235	0.2	0.19	0.29	0.27
		35-39	0.123	0.123	0.110	0.152	0.107	0.081	0.139	0.162	0.085	0.061	0.064	0.110	0.128	0.082	0.107	0.098	0.090	0.060	0.098	0.194	0.1	0.12	0.13	0.15
		40-44	0.085	0.085	0.053	0.091	0.086	- 0.009	0.113	0.082	0.063	0.181	0.093	0.080	0.110	0.041	0.067	0.057	0.104	0.059	0.070	0.112	0.1	0.07	0.08	0.08
		45-49	0.055	0.048	0.033	0.062	0.036	0.206	0.051	0.056	0.055	0.248	0.045	0.052	0.059	0.053	0.045	0.032	0.052	0.040	0.037	0.088	0.0	0.07	0.04	0.09
	Literate	15-19	0.038	0.040	0.068	0.055	0.045	0.040	0.033	0.032	0.038	0.050	0.044	0.035	0.052	0.042	0.036	0.031	0.034	0.034	0.039	0.034	0.0	0.02	0.03	0.03
		20-24	0.178	0.189	0.233	0.209	0.197	0.189	0.152	0.160	0.182	0.208	0.202	0.166	0.180	0.194	0.183	0.161	0.163	0.151	0.166	0.199	0.1	0.16	0.19	0.21
		25-29	0.197	0.193	0.227	0.215	0.189	0.195	0.180	0.209	0.199	0.211	0.208	0.183	0.191	0.225	0.182	0.169	0.188	0.171	0.184	0.221	0.2	0.23	0.24	0.24
		30-34	0.132	0.123	0.151	0.142	0.112	0.136	0.120	0.138	0.121	0.154	0.145	0.119	0.131	0.136	0.103	0.107	0.122	0.115	0.110	0.171	0.1	0.17	0.19	0.19
		35-39	0.064	0.066	0.074	0.078	0.054	0.067	0.053	0.059	0.057	0.084	0.069	0.055	0.063	0.063	0.046	0.046	0.051	0.050	0.051	0.106	0.0	0.09	0.11	0.09
		40-44	0.038	0.040	0.044	0.052	0.028	0.040	0.029	0.029	0.036	0.050	0.043	0.028	0.038	0.048	0.024	0.026	0.031	0.037	0.032	0.060	0.0	0.04	0.06	0.05
		45-49	0.026	0.024	0.018	0.030	0.018	0.021	0.025	0.027	0.024	0.030	0.031	0.023	0.028	0.033	0.024	0.035	0.032	0.029	0.024	0.039	0.0	0.02	0.02	0.02
	Illiterate	15-19	0.090	0.078	0.129	0.111	0.103	0.097	0.092	0.087	0.097	0.105	0.095	0.078	0.114	0.087	0.081	0.074	0.084	0.096	0.083	0.073	0.0	0.05	0.07	0.07
		20-24	0.276	0.256	0.318	0.308	0.297	0.302	0.261	0.259	0.272	0.285	0.290	0.254	0.275	0.299	0.260	0.242	0.254	0.247	0.264	0.266	0.1	0.25	0.27	0.28
		25-29																					0.2	0.23	0.24	0.24

		25-29	0.267	0.249	0.296	0.287	0.266	0.280	0.237	0.252	0.268	0.273	0.296	0.261	0.271	0.286	0.238	0.229	0.237	0.216	0.240	0.291	0.266	0.275	0.302	0.306
		30-34	0.199	0.198	0.235	0.223	0.199	0.212	0.156	0.164	0.205	0.217	0.236	0.189	0.202	0.197	0.154	0.153	0.170	0.133	0.154	0.236	0.273	0.218	0.247	0.234
		35-39	0.120	0.125	0.149	0.144	0.126	0.127	0.093	0.091	0.121	0.131	0.150	0.110	0.118	0.110	0.084	0.081	0.087	0.076	0.096	0.165	0.222	0.120	0.161	0.148
		40-44	0.085	0.097	0.106	0.086	0.084	0.092	0.064	0.061	0.087	0.106	0.104	0.080	0.082	0.081	0.065	0.070	0.067	0.058	0.069	0.119	0.143	0.082	0.098	0.092
		45-49	0.052	0.052	0.053	0.049	0.043	0.057	0.048	0.045	0.049	0.055	0.066	0.051	0.060	0.063	0.052	0.047	0.045	0.041	0.046	0.083	0.087	0.045	0.055	0.062

Table 13: Disaggregated District Level Indirect Estimates of IMR: 2001

State/District	Spatial			Caste		Religion			Education	
	Total	*Rural*	*Urban*	*SC*	*ST*	*Hindu*	*Muslim*	*Christian*	*Literate*	*Illiterate*
Assam	85	86	67	86	70	75	98	82	73	93
Kokrajhar	87	88	60	96	71	77	99	94	79	90
Dhubri	103	105	73	91	75	84	106	89	84	111
Goalpara	95	96	84	81	79	82	100	88	82	103
Bongaigaon	92	94	65	92	77	80	101	86	81	99
Barpeta	89	89	86	89	59	71	95	69	77	95
Kamrup	77	82	66	90	54	69	93	66	70	87
Nalbari	78	79	48	96	65	77	78	113	69	86
Darrang	102	102	78	98	75	89	113	95	81	112
Marigaon	87	87	85	102	60	75	97	33	77	95
Nagaon	88	90	65	77	68	74	96	102	77	98
Sonitpur	81	82	64	80	64	79	86	81	60	90
Lakhimpur	72	72	78	69	69	69	78	90	64	81
Dhemaji	72	72	73	81	75	70	93	106	69	75
Tinsukia	61	63	45	44	53	61	48	62	51	69
Dibrugarh	53	53	50	56	43	53	50	44	46	60
Sibsagar	79	80	73	80	70	80	69	77	69	94
Jorhat	70	71	64	56	72	71	67	55	66	76
Golaghat	63	64	54	63	65	61	75	69	52	75
Karbi Anglong	88	91	67	119	47	88	89	86	73	99
NC Hills	84	87	77	45	80	89	112	68	81	87
Cachar	95	96	84	102	53	99	92	62	92	96
Karimganj	107	108	64	106	92	102	109	72	102	110
Hailakandi	93	94	77	71	32	102	90	86	90	92

Table 14: Disaggregated District Level Indirect Estimates of Under 5 Mortality: 2001

State/ District	Spatial			Caste		Religion			Education	
	Total	*Rural*	*Urban*	*SC*	*ST*	*Hindu*	*Muslim*	*Christian*	*Literate*	*Illiterate*
Assam	127	129	101	128	105	112	145	122	110	139
Kokrajhar	130	132	92	143	107	116	148	140	119	134
Dhubri	152	156	110	135	112	125	157	132	126	164
Goalpara	141	142	126	122	118	123	148	131	123	153
Bongaigaon	137	140	98	136	116	119	150	128	121	146
Barpeta	133	133	128	133	89	107	141	105	116	141
Kamrup	117	123	99	134	82	104	138	100	106	130

Nalbari	117	118	74	142	97	115	117	167	104	128
Darrang	153	153	117	145	113	132	166	141	121	165
Marigaon	130	131	130	152	90	113	145	50	115	142
Nagaon	132	134	99	116	102	111	142	152	114	145
Sonitpur	121	123	96	120	97	118	128	121	100	135
Lakhimpur	109	109	117	104	103	104	117	134	97	122
Dhemaji	108	108	111	122	113	106	139	157	103	112
Tinsukia	92	96	68	67	81	93	73	93	77	103
Dibrugarh	80	81	75	85	65	81	75	67	70	91
Sibsagar	119	119	109	120	108	120	104	115	104	139
Jorhat	106	108	97	85	98	107	101	84	100	114
Golaghat	95	96	82	95	71	93	112	103	80	113
KarbiAnglong	132	135	101	175	134	132	132	129	109	146
NC Hills	126	131	115	69	119	133	165	103	121	130
Cachar	141	143	125	153	80	147	138	93	138	143
Karimganj	158	160	97	157	137	152	160	108	151	162
Hailakandi	139	140	116	108	49	151	134	128	136	137

Key Findings

- During 2001-2011, child (0-6) population in Assam has grown only minimally (by 0.29 percent) despite a substantial growth in urban areas. This decline is visible in rural areas and the decline is sharper in case of girls than boys.

- However, in 12 districts the rate of growth is found to be positive out of which 11 are Minority Concentrated Districts (as per the Ministry of Minority Affairs) and 10 districts are BRGF districts (as per the Ministry of Panchayati Raj). The highest growths are found in Karbi Anglong, Karimganj and Dhubri districts.

- Indirect estimates show that birth rates and fertility indicators are higher in rural areas compared to urban areas and also amongst the Muslims and Illiterates. However, fertility difference across religion is more prominent in certain districts.

- Indirect estimates of Infant Mortality Rate (IMR) are also adversely biased toward rural areas, also towards minorities and scheduled castes.

- The girls ever married in the age group 15-19 is considerably high amongst the Muslims and illiterates and mean years of marriage amongst the women in general is low amongst them. This gives a higher fertility circle which in turn, results in both high births and deaths amongst children.

- The districts which records higher growth rate of children are the ones with higher percentage of women getting married in the age group of 15-19 with average mean years of marriage about 18 years.

- Age at marriage and level of education of women are found, therefore, critical for status of children and reproductive health of women for certain districts and communities.

Concluding Observations

It is thus clear that the secondary data is indicative of a secular decline in fertility and infant and child mortality in the state or district as a whole. However, the disaggregated estimates are evidently marked by distinct spatial, community, religion and social disparity within and across the districts. It is evidenced that there exists clear bias in case of both high fertility and child mortality towards rural, Muslims, marginalised and the illiterates. This underlines a need based approach for improving the status of children in the state.

The present paper is handicapped in the sense that disaggregated estimates for 2011 census could not be provided due to non-availability of data. Once available, a comparable set of estimates for 2011 may be produced for evaluate the progress towards bridging the gaps witnessed in 2001.

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Appendix

State/District	Percent of women married 15-19 age					Mean Age at Marriage		
	Hindu	Muslim	Christian	Illiterate	Literate	Hindu	Muslim	Christian
Assam	15.45	35.35	14.45	34.42	15.13	22.6	19.3	22.6
Kokrajhar	14.57	50.16	14.90	27.17	15.52	22.6	17.9	22.2
Dhubri	17.57	51.07	18.54	55.97	29.37	22.0	18.0	22.3
Goalpara	15.38	45.54	14.78	47.68	20.93	22.7	18.4	22.6
Bongaigaon	14.34	41.70	12.59	37.99	15.93	22.7	18.5	23.5
Barpeta	12.84	42.65	20.39	47.05	18.51	23.5	18.4	21.7
Kamrup	14.19	30.67	18.58	37.36	13.75	23.0	20.0	22.2
Nalbari	13.53	29.16	15.88	31.61	12.18	23.1	19.9	21.8
Darrang	14.79	42.37	12.69	37.77	14.24	23.1	18.9	23.3
Marigaon	19.71	36.26	40.00	42.19	20.37	21.8	19.1	21.1
Nagaon	15.63	32.87	14.76	37.29	18.13	22.7	19.3	22.1
Sonitpur	16.03	37.93	14.18	27.54	13.82	22.4	19.1	22.8
Lakhimpur	16.37	44.79	19.41	33.52	16.13	22.8	18.6	22.0
Dhemaji	17.16	38.37	17.17	26.32	14.38	22.0	19.2	21.9
Tinsukia	18.77	19.07	15.84	27.81	13.35	21.8	21.4	22.5
Dibrugarh	16.52	14.11	11.34	25.60	12.66	22.4	22.8	22.8
Sibsagar	15.41	15.09	14.93	28.17	12.39	22.7	22.8	22.7
Jorhat	16.91	17.33	18.63	31.47	13.61	22.8	22.2	21.9
Golaghat	17.46	21.50	14.88	28.94	13.77	22.2	21.5	22.0
Karbi Anglong	17.74	36.42	14.22	25.64	13.29	21.9	19.6	22.2
NC Hills	13.84	25.48	10.80	19.18	11.49	22.7	20.2	23.6
Cachar	10.45	15.02	9.97	20.05	9.63	23.4	21.6	23.1
Karimganj	11.14	25.17	13.25	29.94	13.70	23.5	20.1	23.2
Hailakandi	13.27	20.72	16.43	27.32	12.67	22.8	20.6	21.9

Based on F Series Census 2001

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