

A large, light green map of the state of Assam, India, is centered in the background. The map shows the state's geographical outline and its various districts.

# Assam Human Development Report 2003



**GOVERNMENT OF ASSAM**

# **Assam Human Development Report 2003**



**Government of Assam**

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Planning & Development Department, Government of Assam  
Dispur, Guwahati - 781006

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**TARUN GOGOI**  
**CHIEF MINISTER**  
**Govt. of Assam**



**DISPUR,**  
**GUWAHATI - 781006**

## Foreword

It is my great privilege to introduce the first Human Development Report of Assam. Assam occupies a unique place in the map of India due to its strategic geographical location, natural beauty, rich bio-diversity and above all its very heterogeneous colourful population representing distinct culture. In spite of numerous problems faced by the State, it has registered considerable attainment in different facets of human development. Still it has to go far ahead. We cannot afford to remain satisfied with the present status of well being of the people of Assam. The State is presently facing tremendous fiscal crunch. We are to meet the challenges of furthering the quality of life of the people with the judicious use of limited resources we have. The State Human Development Report of Assam will present a profile of gaps in development process across districts. This report, I expect, will provide a fruitful agenda for the betterment of all segments of the population including the down trodden, the poorest of the poor.

I do record my sincere gratitude to UNDP for its initiative taken in preparing the State Human Development Report of Assam. I am very grateful to Dr. (Mrs.) Rohini Nayyar, Adviser (RD), Planning Commission, Government of India for showing her keen interest for the work. The officers of the State Government of Assam as well as academicians from Guwahati and Dibrugarh University along with other resource persons deserve special mention for their collective effort in bringing out the report.

The analysis, comments and views given in this report are not necessarily that of the Government of Assam. The independence of views have not been interfered with in any way. It is hoped that it will serve as a useful tool to both Government and non-Government agencies on the issue of Human Development in the regional perspective.

Chief Minister,  
Govt. of Assam,  
Dispur, Guwahati



HIMANTA BISWA SARMA  
MINISTER OF STATE  
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## Message

Assam is bringing out its first Human Development Report prepared with the generous support of the UNDP and the Planning Commission.

There was great enthusiasm in the preparation of this Report and I am confident that the report would play a critical role in shaping the State Government's policy and programmes for human development. The Report will also be a basis for decentralised planning in the context of the new Panchayati Raj Set up.

The Assam Human Development Report, 2003 will attract considerable interest from Social Scientists, Researchers and Academicians and would facilitate a wide debate on all issues concerning human development.

(HIMANTA BISWA SARMA)  
Minister of State,  
Planning and Development,  
Assam



**Dr. Rohini Nayyar**  
Adviser (Rural Development)

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## Message

We are very pleased that the State Government of Assam has prepared the first Assam Human Development Report. The Report provides an objective account of the status of human development as well as identifies the challenges for future action.

The Report pioneers the calculation of the district level Human Poverty Index (HPI) and offers methodological insights that may benefit other State government as well. We hope that it will be widely disseminated and discussed in Assam. Strategies and programmes must be so designed as to address some of the problems faced by the people of Assam, more directly. Also, the focus must be on districts lagging behind in the attainment of human development as per standard indicators.

Let me once again felicitate the State government for this important exercise, which also helps set the roadmap for future follow-up action.

(Dr. Rohini Nayyar)  
Adviser (Rural Development)  
Planning Commission



## Message

I congratulate the Government of Assam for preparing their first Human Development Report.

The Report maps the current status of human development across districts and provides fresh insights into the development process. It is the first State Human Development Report in the country that has attempted to compute a district level Human Poverty Index (HPI).

The Report documents successes in different sectors, especially attainments in literacy and improvements in access to health facilities through innovative schemes. The vibrant community institutions, non-governmental organisations and voluntary associations of people that are special features of the State are also captured in the report, at the same time that it identifies the challenges, and offers concrete suggestions to enhance human development in Assam.

Decentralisation and gender equality have been identified by the Government of India for United Nations-wide focus in India. It is heartening that the development strategy advanced by this Report calls for a greater role for local bodies and participation of women in the political arena.

It is UNDP's hope that this Report will be instrumental in directing policy priority towards the social sectors.

Maxine Olson  
UNDP Resident Representative &  
UN Resident Coordinator

**P.K. DATTA**  
**CHIEF SECRETARY**  
**Govt. of Assam**



**DISPUR,**  
**GUWAHATI - 781006**

## Preface

The first Human Development Report brought out by UNDP in 1990 starts with the following lines “The real wealth of a nation is its people. And the purpose of development is to create an enabling environment for people to enjoy long, healthy and creative lives. This simple but powerful truth is too often forgotten in the pursuit of material and financial wealth”. It is universally accepted that development bears a connotation different from growth in GDP. The economic achievement may not usually reflect the quality of life of a society. In UNDP’s HDR it is rightly remarked “Human development is the end - economic growth a means. So, the purpose of growth should be to enrich people’s lives”.

At present UNDP’s concept of Human Development covering three critical dimensions of well-being has got wide acceptance. As per UNDP’s definition Human Development is nothing but “enlarging people’s choices” and these choices are varied and changing over time. The three basic issues of well-being are - a long and healthy life, access to knowledge and skills and control over resources to ensure a decent standard of living. Taking into account these three broad parameters, UNDP envisages to measure the people’s welfare by way of constructing composite Human Development Index (HDI). Recognising the existence of gender disparity in development process UNDP subsequently developed Gender Development Index (GDI) and Gender Empowerment Measure (GEM) as well as well as Human Poverty Index (HPI) as a complement to HDI. Regional disparities in Human Development can easily be gauged with these simple indicators. Already some of the states of India have published Human Development Report mainly basing on these indicators. The Planning Commission, Government of India also has recently published the National Human Development Report, 2001 that seeks to rank the states in terms of different Human Development Indicators.

The efforts of the other states and inspiration from UNDP as well as Planning Commission, Government of India prompted the State Government of Assam to undertake the tasks of preparing a State Human Development Report of Assam.

Human Development encompasses not only human capacity building viz., good health, more knowledge etc. but also concerns proper use of these capabilities. In addition to health, education and income people have also other important choices like, political freedom, human rights, self-respect etc. The State HDR of Assam attempts to focus some important aspects of Human Development pertaining to the State besides ranking its districts as regards HDI, GDI and HPI. In constructing HDI and GDI, UNDP’s methodology has been adopted while different sets of HPI are computed taking into account additional variables.

People’s choices may vary according to ethnic group, religion, place of residence etc. Even the people belonging to the same ethnic group or religion may differ in choices according to place of residence, level of education, economic status etc. Some are of the view that HDI, GDI or HPI are oversimplification of the ground reality. Nevertheless the composite indices HDI, GDI and HPI have universal relevance and are useful until alternative measures are evolved.

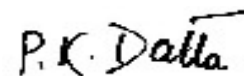
The balance sheet of development activities undertaken by the Government does not present the complete and clear picture of human development status in the State. On this background, the State HDR of Assam seeks to cover more than mere departmental progress report on target and achievement of various organs of the State Government. It, therefore, takes into account initiative taken by non-governmental organisation and voluntary agencies. There is no denying the fact that a better appreciation of the status of Human Development is well nigh impossible sans strong database. The inadequacy of existing database has made the present HDR confined to limited area and analysis. There is a felt-need for improvement of the statistical system in the State. Applying the methodology given in UNDP's 1997 HDR, human development and gender development indices have been constructed for the districts of Assam for 2001, as the required data for later period are not available. The estimates of the two sets can be effectively used to measure the regional disparity within the State. Large variation in human development level has been observed among the districts of the State. The HDI moves from the highest 0.650 in Jorhat district to the lowest 0.214 in Dhubri district. The district GDIs for 2001 range between 0.877 in N.C. Hills and 0.012 in Karimganj. It is interesting to observe that rank as regards HDI and GDI are identical for most of the districts. But, a few districts namely, N.C. Hills, Lakhimpur and Dhemaji have exhibited wide divergence between HDI rank and GDI rank.

It is worth mentioning that significant divergence has been noticed between HDI ranking and ranking of the GDP index for some districts, viz, Kokrajhar, Barpeta, Dhubri, Tinsukia etc. It shows that these districts have not been able to transform economic prosperity into greater welfare for their people. The present HDR is to a large extent successful in presenting such sorry state of affairs inviting proper diagnosis of the matter and adequate policy prescription for amelioration of the same. It also identifies common development priorities of the districts on different aspects related to human development. Although, it is realised that indicators computed for different points of time facilitate catching up of cumulative achievement over time and understanding of inter temporal changes but due to paucity of numerical information we have been constrained in doing so. The important role played by time series indicators with regular periodicity relating to people's well-being in chalking out effective planning and policy formulation cannot be ruled out. There should be a continuous process for computation of the indicators at regular interval. For this purpose all-round efforts are to be made for building up a sound and strong database at disaggregate levels.

Nevertheless, we hope that this report, the first of its kind in the State, will go a long way in providing a useful tool for the administrators and policy makers of the State. It will also attract considerable attention of academicians and researchers in socio-economic field.

We commend the sincere and hard work put in by the project team entrusted with preparation of the report.

Comments and suggestions for improvement in contents and presentation of the future issues of the report are most welcome.



Chief Secretary,  
Govt. of Assam,  
Dispur, Guwahati.

## Acknowledgements

The first Human Development Report of Assam has successfully been completed due to the efforts and involvement of various Government and non-Government organisations and Autonomous bodies.

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The officers and staff of the Directorate of Economics and Statistics provided immense statistical assistance including construction of HDI and GDI.

The Commissioner, Planning and Development Department, Govt. of Assam first Mr. H.S. Das, IAS and then Mr. S.C. Das, IAS, coordinated the functioning of the working groups as well as the preparation of the report. Shri G. Ganguli, Joint Secretary to the Government of Assam, Planning and Development Department, Shri P. Saikia, former Joint Secretary to the Government of Assam, Planning and Development Department, Shri M.C. Barua, Director of Economics and Statistics, Assam and Shri P.K. Bhattacharyya, Senior Research Officer provided useful assistance in coordinating the work.

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# Summary



# Summary

## The State of Assam

**Assam is situated in the North East region of India - a fact of geographic, cultural, economic and political significance. For centuries, perhaps thousands of years, people and communities have been attracted to the fertile environs of Assam and its abundant natural resources. Streams of people have met and mingled, and cultures and customs have merged. In the process a rich and composite culture has evolved.**

Development, or the lack of it, has contributed to the disquiet that has characterised much of the North East for several decades. The region continues to be marked by low agricultural productivity, poor infrastructure, tenuous communications and nascent levels of industrial activity. **Conscious of its exceptional features (and of its strategic significance), the Centre has traditionally considered the North East region as deserving of singular treatment.** There has also been recognition, in theory, of the fact that Government would need to play a special role in promoting development, creating infrastructure and stimulating economic activity.

**Despite these measures, there is evidence based on objective criteria to show that the gap between the North East and the rest of the country has widened.** More importantly, the region continues to perceive itself as distant and distinct, and unable to participate in the benefits of an expanding, growing economy.

In the last decade, there has been an unprecedented and continuing process of economic reform. Available data indicates that in the 1990s the pattern of incremental investment has been skewed in favour of regions with relative advantages in infrastructure, communication and transportation access, an established environment for entrepreneurship, and the availability of a skilled work force. **It is precisely in these areas that the North East and Assam are particularly disadvantaged.**

**It is therefore extremely important that the North East receive the special and focused attention of the Centre, and of the Planning Commission. The States of the region must be enabled to overcome their disadvantages.**

Bordering six States and two countries, Assam accounts for about 2.4 percent of the country's geographical area. Its 26.64 million people (2001 Census) are 2.59 percent of the country's population, and its population density of 340 persons per square kilometre is marginally higher than the average density for the country (324 persons per square kilometre).

The State's 23 districts vary considerably in size and population. The sprawling district of Karbi Anglong, almost 10,500 square kilometres in area, is nearly eight times as large as Hailakandi district. With respect to population densities the spread is even larger. The most densely populated district, Nagaon, has a population density

almost sixteen times that of the least densely populated district. Most people in Assam, in fact seven of every eight people, (87.28 percent) live in rural areas.

In the 20<sup>th</sup> century, between the years 1901 and 2001, the population of the State increased by a little over eight fold, clearly outpacing the average rate of growth of population in the rest of the country. The decadal variation in population in Assam has been very much larger than that in India as whole, especially in the first half of the century. It is only in the last decade that the decadal variation in Assam has declined to a rate less than that of India.

At the beginning of the 20<sup>th</sup> century the sex ratio in Assam was decidedly adverse. It has improved significantly in recent decades. **There are now 932 women for every 1000 men in the State, compared to 933 per 1,000 for the country.** Significantly, the improvement in Assam has come when the sex ratio for the country as whole has been declining. This is an extremely positive development.

Assam is blessed with fertile soil and a climate conducive to agriculture. The State has the potential to expand its agricultural production manifold. The State possesses an estimated 320 million tonnes of coal reserves, oil and natural gas reserves, sufficient to sustain current production levels for at least another fifty years, and a vast, though largely untapped, potential for power generation. **There are several other positive attributes, and the State is well placed to service the needs and markets of other States of the North East.** A nascent industrial infrastructure, capable of being built upon, already exists in Assam.

Despite this, Assam's economic development is lagging behind that of the rest of the country – and the gap is increasing. **At Independence, Assam's per capita income was only marginally less (a difference of 4 percent) than that of the average for the country. In 1998 the average per capita income for the country was over 1.8 times that of Assam.** The relative stagnancy in the growth of income is attributable in turn to the inability of each of the component sectors to grow at rates that would allow the State to reach the levels attained by the rest of the country.

Industrial diversification and growth has been constrained by the inadequacy and quality of complementary infrastructure, the geographical isolation of the region, and the lack of well developed markets. There are few traditions of indigenous entrepreneurship, and the tentativeness of private investment from outside the State has necessitated a major, if not always efficient, role for the State. The agriculture sector has not grown at a rate comparable to that of the rest of the country. **The overall growth rate since the 1980s has been a little over 2 percent, not sufficient to generate surpluses for investment, or create purchasing power in the rural sector to provide a market for local industries. The inability to build on the promise afforded by the horticulture sector is largely attributable to the deficiencies in complementary investments, in storage, in rural transportation and in market facilities.** For the same reasons, fisheries, poultry farming and dairy are yet to acquire the momentum required to raise incomes substantially and sustainably. Post-1997, timber processing and the related downstream industries have suffered setbacks, and economic activity, and consequently income and employment, are at levels much lower than even a decade ago.

In absolute terms, the number of poor people in the State has increased from 7.8 million in 1983 to 9.5 million in 1999-2000. 36.09 percent of the State's population continue to live below the poverty line, a figure appreciably above the national average of 26.10 percent.

There are indeed many challenges that confront the State and its people. Adding to their complexity are two issues that have certainly been exceptional in the duration of their existence, the intensity of their occurrence, and the extent of their impact.

The first of these is the fact of decades of unrest, agitation, and at a later stage, insurgency. **Inequities, lack of development, perceived discrimination and lack of opportunities for employment have contributed to discord and strife. Such situations are rarely, if ever, conducive to development.**

**Secondly, the State has functioned for over a decade now under severe fiscal stress.** There is a mismatch between the resources needed to provide basic services, maintain assets, promote growth and development, and create infrastructure, and the resources available to the State of Assam.

**These are exceptional circumstances requiring extraordinary support from the Centre and the Planning Commission. The people of Assam, and the State Government, must be enabled with resources and support from the Centre, to meet these challenges.**

Development is intricately connected to governance, to equity and justice, transparency and effectiveness, human rights and the rule of law. **The Government of Assam recognises the need to review and transform the systems of administration and delivery, and is committed to an administration that is accountable and transparent.** Several measures have already been taken to make the system more efficient and approachable. **Lending credence to the State's stated position of encouraging the decentralization of power and decision making, and devolving responsibility and empowering people at the grass root level, elections to Panchayati Raj institutions were held in December 2001, after a gap of six years.**

**Peace and stability are important to complement and support good governance, and the Government has sought to restore the confidence of the people, reduce the level of violence, and promote an environment in which development can take place.**

## Income, Employment and Poverty

At Independence, the State of Assam inherited an economy that served largely colonial interests. It had a modicum of industry and relatively underdeveloped infrastructure, the latter largely catering to the interests of tea and other extractive industries.

Since Independence there has been considerable development in the State. **Yet, Assam has levels and rates of growth of income below the average for the country. Of concern is the fact that the gap is widening, a trend that needs to be corrected urgently.** Although there have been periods of encouraging growth, by and large the growth rate of NSDP has not kept pace with that of the country. This is a trend particularly perceptible since the early 1970s, and accentuated in recent years.

In 1950-51 Assam's per capita income was 4.1 percent higher than the average for the country. By 1980-81 Assam's per capita income was 27 percent lower than the national average. By 1998-99 the gap had widened to 45.5 percent. **Significantly, with the commencement of the process of liberalisation, and the concomitant process of modifying the role of the Government, the gap has appreciably widened.**

**There is also inter-district inequity. The per capita income of the district with the highest income is more than three times that of the district with the lowest per capita income.** In 1994-95, seven districts accounted for nearly half of the State Domestic Product the remaining 16 contributed the other half. The seven districts with the lowest per capita income accounted for only a seventh of the State Domestic Product. Kamrup district contributed almost a fifth of the State's GDP originating in the tertiary sector, and over a sixth of State's GDP in the secondary sector. At the other end of the scale, the North Cachar Hills district contributed 1 percent of the State's GDP in the secondary sector, and about 1.5 percent in the primary and tertiary sectors.

The fact of inter-district inequities needs to be addressed through the planning process, through prioritisation of State initiatives, and a differentiated approach towards development. **As India embarks on a path of higher growth, it is imperative that Assam and all of its people be enabled to improve their quality of life and standard of living.**

The contribution of the primary sector to the Net State Domestic Product (NSDP) has declined from about 47.5 percent in 1980-81 to around 40 percent in recent years. It however continues to be the largest contributing sector. The growth in the primary sector has averaged just about 2 percent in recent decades, the lowest amongst the three sectors. **Despite the fact that agriculture accounts for only about a third of the State Domestic Product, it plays an important role in the economy, providing employment to 69 percent of the total work force.**

**Most farmers work on small and marginal farms, and the average size of holdings has been falling. The small size of farms, traditional farming methods combined with low levels of mechanisation are significant factors accounting for the low productivity.** While the total production of food grains and other crops has recorded increases in the last fifty years, the per capita food grain production has shown a decline. This has implications for food security, in particular for vulnerable and disadvantaged sections. Despite the fact that yield rates of the principal crops have been increasing since Independence, these are still below the average yield rates of the country and significantly below the yield rates of high performing States.

A number of factors constrain the attainment of higher productivities. The shift from community farming, largely subsistence oriented systems to modern, technologically advanced and market oriented agriculture has taken place slowly, and is uneven in its spread. **Modern agriculture, marked by improved agricultural practices, multiple cropping and high yields, is just beginning to take off in Assam.** The effective non-availability of credit, especially to marginal farmers, is another important factor. Most importantly, the uncertainties and vagaries of nature continue to beset agriculture; the regular occurrence of floods and natural calamities has been an extremely important factor.

**The pace of change in the agriculture sector needs to be enhanced to produce the surpluses that will steer the State's economy on to a higher growth path. The sector should be developed sustainably and equitably, so that the fruits of its enlargement are shared by all.**

Assam is still amongst the industrially under-developed States in the country. The partition of India meant a major reorganisation of Assam's economy. This had serious implications for industry in Assam. The high transportation cost meant that raw materials and inputs from the rest of India cost more, as did the transportation of goods to the rest of India. There are some modern industries but they operate with few backward or forward linkages. Surpluses generated by the industries in Assam have not been invested in the State, especially in the last two decades, marked as they were by periods of strife. Infrastructural problems and the shortage of capital have also meant slow growth in this sector.

**Some key sectors for industrial development have been identified, including food processing, handlooms and textiles, and the rural non-farm sector.** It is important that the essentiality of adequate growth of employment, and of the need to ensure that due attention is paid to the development of relatively less developed regions of the State are kept in mind. Pivotal as well is the expansion of infrastructure, to the level, reliability and quality that is necessary to support industrial development, in particular in the power, communications and transport sectors.



The annual growth rate of NSDP was higher than that of the work force during the period 1970-71 to 1990-91, reflective of an overall, although modest growth in productivity per worker. The data shows that there was an actual decline in worker productivity in the primary and secondary sectors, a reduction compensated partially by the relatively higher productivity increases in the tertiary sector.

**The incidence of unemployment, measured as a percentage of the labour force, is increasing, and is higher than that in the rest of the country.** Unemployment rates in Assam in 1983 were 2.2 percent, as compared to 2.0 percent for the country. By 1999-2000 the country's unemployment rate had risen marginally to 2.3 percent, while Assam's unemployment rate had risen substantially to 4.6 percent.

**The primary sector continues to dominate the sectoral composition of workers though the share has been declining.** The substantial increase has been in the tertiary sector. Throughout the State the rate of work participation for men is higher than that for women. The female work participation rate is higher in rural areas than in urban areas. While female marginal workers were almost negligible in urban areas, in the rural areas, a sizeable proportion of women participate in work in a marginal capacity. The percentage of women workers in the primary sector actually increased in the period 1971-2001, indicating that more women are now entering the work force in the agriculture sector.

In Assam, unemployment increased in the period 1983–2000, in rural and in urban areas. The unemployment percentage in urban areas was extremely high, 9.8 percent in 1999-2000, and as much as 20.5 percent for women. **The dearth of employment opportunities for educated people in the State is evidenced by the increasing number of people with high educational and professional qualifications on the Live Register.** There is a significant differential between the unemployment rate for educated and uneducated persons. Unemployment rates for the educated in Assam are much higher in comparison to all India rates, both in rural and urban sectors, irrespective of sex. Unemployment rates for educated women are much higher than those for men, in both rural and urban areas.

**It is likely that a number of children are employed in the informal and unorganised sectors, as domestic help, in tea stalls and motor garages. A high proportion of those over 60 years continue to participate in the work force.** This proportion is extremely high for males - two out of three men over the age of 60 years, work. This reflects society's inability to 'allow' people, especially the poor, to retire. Low incomes and no savings for many people means that they have to continue to work throughout their lives.

**Assam has an extremely high proportion of its population living in poverty. Despite a decline in the proportion, more than a third of its people are below the poverty line.** The percentage of poor in Assam is the highest among the seven States of the North East.

**There is a rural-urban divide; two out of five people in rural areas are likely to be under the poverty line, while in urban Assam, the incidence is less than one in ten.** Rural poverty is much higher (40.04 percent of population in 1999-2000) than urban poverty (7.47 percent of persons), and the incidence of rural poverty is higher than the all India figure of 27.09 percent.

Income, employment and poverty are central areas of concern. Central to Assam's development prospects and strategy, and even more so for the people, is the rate at which income and employment are expected to grow, and the rate at which poverty is to decline. Any approach has to address all of these issues.

There is the predicament of a gap between income and employment levels in Assam, and the higher income levels and employment opportunities in the rest of the country. To be able to close the gap, and given the critical role that public investment must continue to play, there will be a need for enhanced transfer of public

resources to the State from the Centre. In the context of poverty, the adequacy of funding of public initiatives is even more urgent.

On the part of the State, there is a need to prioritise, and target especially relatively backward regions of the State and groups of disadvantaged people.

**A development strategy that is decentralised and seeks to involve a number of young entrepreneurs needs to be developed by the Government in the sectors in which Assam has potential advantages.**

## Education and Literacy

There are several positive features of the education sector, and its development over the last two decades. There has been impressive growth of the elementary education system in Assam. This is reflected in the significant increase in the number of primary and middle schools, the number of teachers at the primary and middle levels, in enrolments and in improved school infrastructure.

**Enrolment in schools, measured by gross and net enrolment ratios has increased. For the middle school level, the growth rates in Assam in the 1990s were among the highest in the country.** There is a gap in enrolment in school between boys and girls, but the gap is narrowing. The pupil-teacher ratios at primary and upper primary levels in Assam are among the most favourable in the country.

These are encouraging developments. The expansion of physical infrastructure has enabled unprecedented access to the schooling system, in even the remotest parts of the State. Teacher induction has proceeded apace; the relative lack of alternative employment for educated youth has occasionally put pressures on the system to continue to recruit teachers. **Beyond the aggregates however, there are areas of concern, many of them in areas vital to the attainment of the goals, and the sustainability of the gains.**

There are still a number of habitations without government/provincialised primary schools. At the upper primary level, less than half of the population is served by a school within a kilometre of the habitation. These figures are below the national average, indicating that there continues to be a requirement for schools in some areas.

There continue to be many children either out of school, or attending school irregularly. The grade-wise repetition rates for Assam are higher than the all India average. Despite favourable aggregate pupil-teacher ratios (PTRs), there are inter-district and intra-district variations indicative of non-objective and skewed placement of teachers.

**Although there has been an overall improvement in school infrastructure, there continue to be provisioning deficiencies, in particular for additional classrooms, drinking water and toilet facilities, at the primary and upper primary levels.**

Assam is now making a concerted effort to ensure enrolment and regular participation of all 6-14 year old children in school, and the completion of elementary education up to class VII/VIII, with acceptable learning levels. Conscious of the gender gap in education, the Government has identified districts, population groups and sub-district pockets with substantial gender differentials. Public awareness too has created its own pressures for performance and delivery of basic services. **The task ahead therefore, is not only to build schools and infrastructure, but also to do so on the basis of objective exercises of survey, planning, rationalisation and reorganisation.**

It is estimated that there were 12 lakh out-of-school children in 1999. The incidence of child labour (especially farm based work at specific times of the year and the retention of girls for household work) is reported to be higher in poorer families. Girls from poor families also have lower transition rates from the primary to the middle stage of schooling. **The State Government has a series of schematic interventions to address these issues, and provide incentives, especially to special interest groups to send children to school.** These include the supply of free textbooks, attendance, merit and achievement scholarships, and the provision of midday meals at the primary stage. A number of initiatives targeted at 'out-of-school' children have been taken, in particular at the Panchayat or block level. These include summer camps to prepare children for enrolment in formal schools and bridge or transition courses for detained children, and for those who have been absent from school for long periods.

**The Sarva Siksha Abhiyan (Education for All) has been initiated in the 14 non-DPEP districts of the State. The programme will soon cover the entire State. It aims at a concerted effort to ensure universalisation of elementary education, in a fixed time frame.**

Traditionally, village communities in Assam have played an active role in the setting up and management of schools. Throughout the State, Village Education Committees (VECs) have been constituted through a process of awareness generation. **There are almost 21,000 VECs operating in the State and 1,000 Tea Garden Education Committees. In addition more than 38,000 School Managing Committees, and almost 2,500 Gaon Panchayat Education Committees have been constituted.**

Improving the quality of schooling is a precondition for better retention and higher achievement. Teachers are being provided pre and in-service training. Academic support is being provided through Block and Cluster Resource Centres in DPEP areas and best practices are being disseminated to other districts. Curriculum development and enrichment is also receiving attention. Pedagogical changes are being incorporated in new programmes. The content and approach of the curriculum and textbooks at the elementary stage is being re-designed to promote the positive elements of Assam's society.

**The State spends a high share of its Gross State Domestic Product (GSDP) on elementary education. This proportion varies between 1 percent and 2.5 percent for most States, while for Assam it has been more than 3.5 percent in the nineties. In addition, education's share of GSDP has been increasing during the 1990s.**

**The post-independence period also witnessed impressive growth in the availability of educational facilities at the secondary school level and at higher levels.** Between 1950-51 and 1997-98, the number of high schools in Assam recorded a more than ten-fold increase. During the period 1980-81 to 1997-98, there was a more than two-fold increase in enrolment.

**Drop out rates at the high school and higher secondary level continue to be high. Paradoxically, during the period of rapid expansion in enrolments, the drop out rate has been increasing, while for India as a whole it has been declining.**

For those who do not 'drop out', the chances of finishing school successfully, are less than 40 percent. **The results of the high and higher secondary examinations show that while school expansion and enrolment has been rapid, the success rate is low.** In the four years, 1997-2000 the average percentage of students who passed the High School Leaving Examination (HSLC) was only 32.66 percent, of which only 3.42 percent secured a first division. These statistics suggest that a focus shift from mere enrolment to learning levels and

success rates. The issues relating to learning levels, quality of education, relevance of the curriculum, method of teaching are all equally relevant at the high and higher secondary level as well.

**Assam's achievements in literacy place it in the mid range, with a literacy rate of 64.28 percent, in 2001, up from 52.89 percent in 1991, and marginally below the national literacy rate.** There is large gender gap- the literacy rate for men being as much as 71.93 percent and for women it was more than 15 percent lower, at 56.03 percent. There is a large urban- rural gap as well. Urban literacy is as high as 89.88 percent for males and 81.03 percent for females. The figures for rural areas are more than 20 percent less, at 69.02 percent for males and 52.25 percent for females. The Census figures for 1991 and 2001 also show a wide divergence in literacy attainments across districts.

The issues that constrain the education system in Assam outline the path for the future. **The Government of Assam is committed to the universalisation of elementary education and to quality education.**

Effective strategies for community involvement in school management are being implemented, appropriate to local situations. **The role of Panchayats in primary education and their linkages with traditional village based community organizations is being pursued. The process of preparation and publication of textbooks, workbooks and teachers' handbooks is being streamlined to ensure good quality and timely production and distribution of these materials.**

The quality of elementary education remains a serious concern. The initiatives taken at the elementary stage are meaningful only if they culminate in better standards at the secondary and higher education stage including lower dropout rates and improved success at the end of the school system.

## Towards a Healthy Society

**Health is an indicator of well-being that has immediate implications for the quality of life as well as for productive capacities and capabilities. Assam has been moving towards the attainment of the goal of 'health for all'. The State Government has emphasised not only the adequate provision of primary health care, but education and awareness of health issues, dissemination of information on prevention, hygiene and healthy practices, food security and nutrition, safe drinking water and good sanitation, maternal and child health and family welfare.** An assessment of the health status is possible from key indicators such as infant mortality, crude birth rate, crude death rate, life expectancy and nutritional status.

People in the State now live longer than their parents did, and health profiles have improved. Yet, health indicators in Assam also reveal inequity – between districts, between income and other groupings. **There is a rural – urban divide, and a gender gap reflected across almost all indicators. Of concern also is the fact that the commonly used indicators for the measurement of the health status of a population show that while there has been improvement in the all indicators, Assam's performance in the last decade has been lower than the average for the country.**

Life expectancy at birth (LEB) in Assam is below that of the country as a whole, and is one of the lowest amongst major Indian States. In the 1970's men could expect to live longer than women. **This has since been reversed; women can now expect to live longer than men. This is a trend that began to take place initially in urban areas, but is now true of rural areas as well. There is still a very significant gap between the LEB for rural and for urban areas. In the period 1992- 96, the LEB in urban areas was 64.6 years. In rural areas it was almost ten years less, at 55.6 years.** The percentage of people who are not expected to

live beyond 40 years in Assam was also higher than the national average. It was 24.9 percent in 1981 and 21.8 percent in 1991. There is rural – urban gap and a gender gap here too; males have a better chance of surviving beyond forty years of age.

Through the 1990s there was a secular decline in the Infant Mortality Rate in Assam, from 81 per 1000 live births (1991) to 76 per 1000 live births by the end of the decade (1999). This is a positive development, but the IMR in Assam is higher than the national average. **Across districts there are major differences; the data shows that while some districts have IMR rates comparable or lower than the national average and are therefore performing very well, there are others with high IMR rates. The rural-urban gap is extremely high.** Urban IMRs were less than half the rural IMRs, in the entire period. The rural-urban divide is also apparent in the data on under-5 mortality, which measures the probability of dying before the fifth birthday. Under-5 mortality is substantially higher in rural areas. Not surprisingly there were other significant correlations, most tending to confirm the view that children of disadvantaged parents were most at risk. Such disadvantaged groupings, for example, included illiterate mothers and low-income households.

The Crude Birth Rate (CBR) has declined significantly in Assam, over the last few decades, but it continues to be higher than the national average. **In Assam, as in the rest of the country, the CBR is much higher in rural areas as compared to that in urban areas**

**The Total Fertility Rate (TFR) was 3.3 children per woman in 1995-97, a substantial decline from 1980-81, when it was as high as 4.1 children. The TFR for all India was 3.4 in the 1995-97 period. There is a substantial rural-urban gap in fertility rates as well.**

The Crude Death Rate (CDR) is another indicator of the health status of a population. The death rate in Assam declined quite substantially in the early nineties, but in the mid nineties, the decline came to a virtual standstill and the rate even showed a marginal increase. **As in the case of the CBR, the CDR in rural Assam is substantially higher than that in urban Assam, and the same is true for rural and urban India.**

An analysis of the health status must go beyond indicators, and take into account the trends in critical areas. Nutrition is increasingly recognised as a crucial determinant of health. An analysis of the nutritional intake of children, shows both chronic and acute malnutrition among children. **The proportion of children under three years of age, who are underweight decreased from 49 percent in 1992-93 to 36 percent in 1997-98. The proportion of severely underweight children also decreased from 18 percent to 13 percent. Under-nourishment is substantially higher in rural areas than in urban areas.**

Morbidity is being increasingly used as an indicator of the well-being of people. Both rural and urban Assam had a high proportion reporting ailments. Among the most common illnesses, asthma was fairly prevalent, followed by malaria, jaundice and tuberculosis. **Water-borne diseases are also common, and show a steep rise during periods of flood, in itself a frequent occurrence.**

**Maternal and Child Health form an integral part of the Family Welfare Programme in Assam. Only about 60 percent of expectant mothers received any kind of ante-natal care (ANC), and 17.6 percent of the deliveries took place in health facilities or institutions.** The proportion of births that took place in health facilities or institutions is four times higher in urban areas than in rural areas. Reproductive health care area has certainly improved, but the gains have been very limited. Since the percentage of institutional deliveries is low and those by untrained hands are high, it is not surprising that maternal mortality is still high, at 401 per 100,000 live births, compared to an all India figure of 408 per 100,000 live births, in 1997.

The continuing prevalence of diseases reflects shortcomings that should be addressed by the health care system. **An effective system of vaccination can contribute to the health and longevity of children. Despite the fact of expanding coverage and administrative effort, there are gaps in the extent, periodicity and coverage.** These gaps are more marked for vulnerable and relatively disadvantaged communities and groups. The Universal Immunisation Programme initiated in 1985 sought to cover 85 percent of all infants against the six vaccine preventable diseases by 1990. The six diseases are polio, tetanus, whooping cough, diphtheria, childhood TB and measles. **After an initial spurt in immunisation in the early nineties, the immunisation coverage for children declined during 1996- 99.**

**Diarrhoea is a common cause of mortality among children.** Acute Respiratory Infection (ARI), primarily pneumonia, is another cause of illness and child mortality. Assam has the highest incidence of anaemia in the country. **About 70 percent of women in Assam have some degree of anaemia. The prevalence of anaemia is higher for rural women than for urban women. Among children too the prevalence of anaemia is high.**

Cancer, cardio-vascular diseases, diabetes and stroke are important non-communicable diseases affecting the older population, the proportion of which is increasing with longer life expectancy. Lifestyle changes are however even more significant causal factors.

The availability of medical facilities is comparable to the national average. There are imbalances though, between rural and urban areas, and the efficacy of infrastructure in rural, especially remote areas is less than required.

**While access to health facilities has improved considerably, there are remote, riverine and hill areas that continue to face problems of accessibility. For riverine chars, the State Government has initiated a scheme of boat clinics. Similarly, mobile clinics have been started in hill areas.** The Government of Assam has taken several initiatives to promote health care. These include legislation to provide an adequate regulatory environment for the construction of clinics and nursing homes, centralized procurement of drugs, and innovative schemes such as the boat clinics. New management techniques like the formation of Hospital Management Societies are being introduced in hospitals, so that resources are used judiciously and efficiently.

The expenditure on health as a proportion of total public expenditure was 5.23 percent in 1980-81. It remained more or less constant in 1990-91- at 5.04 percent but declined in 1998-99 to 4.65 percent. **The expenditure on the health sector as a proportion of Gross State Domestic product has also been quite small compared to education, for example.**

There is a need to improve the quality of data, the periodicity of its collection and the extent of its coverage. While the collection of data, especially disaggregated data is important; its analysis is even more consequential. Resource and infrastructure constraints make it even more imperative to analyse information and to target those areas and diseases that impact more significantly on the overall health status of the State and its people. The rural-urban gap is significant, and in some cases, widening. Given the fact of relatively low urbanisation, it is clear that the overall health profile and status can only be improved with vastly more attention to the rural sector. **Within this framework, the emphasis needs to be on those districts which are most inadequately served, and within districts on those blocks that have less than adequate access to health services.** There are also population groups that have health indicators that are substantially lower than the State average. **Another gap is the gender gap, apparent in life expectancy and maternal mortality rates.** Infrastructural constraints, such as poor transportation, prevent the proper utilisation of existing services, particularly in rural areas and are perhaps more important than constructing health care centres.



The private sector is expanding rapidly and in the absence of any controls/ regulations the health care that is provided is often substandard. The Government has enacted the Health Establishment Act to control the unplanned proliferation of private hospitals in the State but the rules under the Act are yet to be framed.

**The State needs to find the resources that will enable the expansion of the health care system and allow for its efficient functioning.** Since the State continues to be under fiscal stress, especially in the short term, resources will need to be generated. Given the fact that private health care systems are expanding, and these provide services at fees much higher than in the public domain, revenue can be generated from the health services, at least from people who can afford to pay.

## Women: Striving in an Unequal World

Through the ages women have played an extremely important role in Assamese society. Contributing at work and at home, women hold the key to the advancement of the State, its people and the economy. However, even today, asymmetry and inequity are unfortunately a fact of life for women. **The position of women in Assam is not different from that of women in other regions of the country. In fact in some respects, women in Assam are more disadvantaged.**

For long, policy interventions were designed as gender neutral, and developmental programmes did not have a gender dimension. It is only in recent decades that the contribution of women and their needs have begun to be articulated and recognised.

Using the equally distributed indices for income, health and education, the GDI for Assam in 2001 is estimated to be 0.537. **N C Hills has the first rank in the GDI, while its rank in the HDI is 11. It is followed by Morigaon, Jorhat, Kamrup and Dibrugarh.** These districts are ranked high on the HDI scale as well. The five districts which were placed at the lowest end of the GDI scale were Karimganj followed by Nagaon, Dhubri, Karbi Anglong and Tinsukia (in ascending order).

The particular characteristics of a district in respect of its geographical features and development are responsible for the wide disparity in the GDI, across districts. **Gender inequity is most visible in the health sphere and reflected in adverse sex ratios, higher mortality rates and a higher incidence of morbidity.** The gender gap in Assam's development is evident and brought out by all of these indicators.

The sex ratio (SR) in Assam is adverse, and has been for many decades, certainly throughout the 20th century. Encouragingly, in the last decade of the century (1991 – 2001), the SR has improved. **There continues to be a significant gap between the ratios for urban and for rural areas, urban SRs being more adverse than rural SRs.** The SR in Assam according to the 2001 Census is 932 females per 1000 males, just below the national SR of 933 females per 1000 males. Encouragingly, sex ratios have been rising in all districts since 1971 when more than half of the districts had SRs below 900.

**Life Expectancy at Birth (LEB) for women has improved significantly in Assam in recent decades, but continues to be below the average for the country.** Women in Assam can expect to live 5.2 years less than their counterparts in the rest of the country. Both men and women in rural Assam can however expect to live almost 10 years less than their urban counterparts.

The Crude Birth Rate (CBR) has been declining since 1971. **In 2001, it continued to be higher than the national average.** Fertility rates are also high, and should be lower. A comparison of male and female death

rates shows that the Infant Mortality Rate (IMR) in the age group 0-4 is higher for males than females. **From age 5 onwards the trend is reversed with much higher mortality rates for females.** This is true till the age of 50 years or so, when the trend again reverses with male death rates becoming higher.

In Assam, as in the rest of India, literacy rates for both males and females have shown a rising trend in the last three decades. There continues to be a gap, which is closing slowly. **Rural literacy rates are 25 percent lower than urban literacy rates and in case of females, the gap between urban and rural areas is as much as 30 percent. There are continuing and wide differences between districts with respect to female literacy.**

At the primary level, the enrolment rate for girls is 48 percent. At the higher secondary stage, the enrolment rate drops to a little over 35 percent. **In the overall higher education segment, the enrolment rate for women is less than 33 percent. The drop out rate for girls in higher education is more than 70 percent.** The success rates in school level examinations for girls are lower than the corresponding rates for boys. Asymmetrical access is most visible in the technical and professional streams of higher education.

**Women's participation in economic activity, and more importantly control of the income earned from it is critical.** Women perform almost all the household labour and a considerable portion of the socially productive labour. Yet, women's labour contribution has not been recognised, nor has it been given due remuneration. Women's wages tend to be lower than wages for corresponding work by men. Much of women's labour is non-waged since it is categorised as household labour, even when it is for market consumption. Even if women's share of work is larger, and this is true of most societies, their share of income is lower. An analysis of the main and marginal workers in agriculture, based on the 1991 and 2001 Census data, shows that fewer women were employed formally in the agricultural sector than men. **A higher proportion of women than of men, were employed as marginal workers.** Despite the large proportion of women that work in agriculture, cultivation and related activities are perceived as a male sphere. Traditionally men own land.

In the 1990s, the employment of women in the organised sector as a proportion of total organised sector employment was around 30 percent. Most women workers in the organised sector are employed in the tea gardens, and this accounts for the preponderance of women workers in large scale (employing over 25 workers) private sector establishments. **The high FWPR in the tea industry has not empowered women. Although the overall FWPR in Assam is high, the majority of women workers are either unpaid or poorly paid and belong to the category of unskilled labour.** In unemployment too, there is a significant rural-urban divide and a pronounced gender differential.

**Women in Assam face aggression and domestic violence. Over a long period, they have been facing violence, insecurity and uncertainty due to the situation prevailing in the State. There is also the growing problem of harassment at the work place.**

To achieve gender equity, it is imperative that the gender dimensions of development and societal advancement be adequately addressed. The participation of women in political processes is also important. A sensitive, forward looking and dynamic gender policy that addresses the prevailing inequity, and seeks to create a positive framework for change is required. Advocacy and social change must necessarily be a part of this initiative. Women need to be seen as active partners in the development process. Capacity building and skill formation must be an integral part of any programme which is to have meaningful results. In Assam with its strong traditions of women's involvement in agriculture and production, gender development is vital to economic growth and human development.

# The State of Assam





# The State of Assam

**A**ssam is situated in the North East region of India, a fact of geographic, cultural, economic and political significance.

**For centuries, perhaps thousands of years, people and communities have been attracted to the fertile environs of Assam and its abundant natural resources. Streams of people have met and mingled, and cultures and customs have merged. This fusion has evolved into a rich and composite culture, a tribute to the assimilative character of the State and its people.**

Revered and respected, the Brahmaputra River is the most important natural feature of the State. Originating in Tibet as the Tsang-po, it journeys eastwards for hundreds of kilometres before breaking through the Himalayas. Then known as the Siang, it traverses 300 kilometres of the forested hills of Arunachal, before it is met by the Lohit, a river with deep associations for the Assamese people. From this union is born the Brahmaputra, the 'Son of God'. It now commences its regal passage of almost 800 kilometres in Assam. Sweeping southwards beyond Dhubri, it then enters Bangladesh, moving powerfully towards the Bay of Bengal.

## A Traveller's Tale

"The climate is soft and temperate. The manners of the people are soft and honest. The men are of small stature and their complexion a dark yellow. Their language differs a little from that of mid-India. Their nature is very impetuous and wild, their memories are retentive, and they are earnest in study.

The King is fond of learning and the people are so likewise in imitation of him. Men of high talent from distant regions, seeking after office, visit his dominions."

**Hiuen Tsang,**  
*Chinese traveller, seventh century*

Each flood season it forsakes its earlier channels to cut new swathes through the soil. As the water recedes, alluvial deposits remain in the river, giving rise to sandy islands. Some of these islands are very large, and the annually enriched soil has attracted cultivation and semi-permanent settlement. Amongst the largest is Majuli Island, steeped in culture and tradition, and almost a thousand square kilometres in area.

There is a distinct monsoon season in which a large part of the annual rainfall is concentrated. There are

also two months of cyclonic activity preceding the monsoon, and rainfall at other times of the year as well. The topography and the warm and humid climate are conducive to plant and vegetation growth. Assam is home to 51 forest and sub-forest types, and the confluence of diverse patterns of vegetation.

The migration of people from South East Asia and from southern China to Assam in fact pre-dates the movement of the Aryan people. Although blurred by the mists of time, the history of ancient Assam has much to do with the march of communities in search of abundant and productive land, of which there was plenty. The land of the Kiratas and the kingdom of Pragjyotisha, with its capital at present day Guwahati, is cited in Vedic literature. At the time when the epic battles of the Mahabharata were being fought in the plains of Northern India,



the Pragjyotisha empire extended to the Bay of Bengal. In the Puranas and later works, the land of Kamarupa is referred to. The Kamakhya Temple near Guwahati is referred to in the Vishnu Purana. According to the Kalika Puran and the Jogni Tantra, the realm of Kamarupa included not only the valley of the Brahmaputra, but also Bhutan, Rangpur, Koch Bihar, Mymensingh and the Garo Hills. According to Hiuen Tsang's descriptions in the seventh century, the Kamarupa country was about 17,000 miles in circuit.

The foundations of present-day Assam are attributable to yet another migration from the east, of the Tai Ahoms, in the 13<sup>th</sup> century. Led by their redoubtable general Sukapha, an Ahom army crossed the Patkai range into the Brahmaputra valley, to establish an empire that would eventually extend throughout the valley. It was only in 1826, six hundred years later, that the Ahom Empire would give way to a century and a quarter of British rule. The Ahoms brought new technology to Assam, provided a framework of peace and stability, resisted Mughal incursions and invasions, and introduced and maintained a uniquely structured, complex and efficient system of administration. They established integrative and assimilative systems of governance, reaching out to the already established communities of the valley, and to the tribes of the adjacent hills, in the process forging the character of the mosaic of modern day Assam. It was only in the early years of the 19<sup>th</sup> century, weakened by internal strife and rebellion, and by a Burmese invasion that the edifice of the Ahom Empire finally crumbled.

#### Another Traveller's Tale

'Its land is not like our land; its sky is not like our sky.  
Its sky sends rain down without the originating cause of clouds,  
On its ground the green grass sprouts up without any aid from  
the soil.  
It stands outside the circle of the Earth and the bowels of the  
enveloping Sphere.  
It has been separated from the world like the letter aliph.

*Mulla Dervish of Herat,  
who accompanied the Mughal general,  
Mir Jumla on an ill-fated expedition to Assam, 17<sup>th</sup> century*

The British moved into Assam to secure the eastern flanks of their empire. They stayed on to develop commercial interests in tea, oil, coal and timber. The map of the North East was drawn and redrawn many times to suit the interests of administration, commerce and empire. At Independence, the province of Assam embraced almost the entire region. This legacy was modified in succeeding decades as hill States emerged to meet the aspirations of their people. **Today the homogeneity of nomenclature of the North**

**East masks the heterogeneity within the region, and the fact of seven States, "The Seven Sisters", bound by age-old ties of culture and interface, and current day commonalities of aspirations towards development.**

## A. Assam and the North East

At one level, the North East region represents immense diversity. There is ethnic, linguistic, community and even religious differentiation within the region. The North East is a collectivity of territory, but is varied and diverse within itself. Adding to the complexity of the area are the economic and social changes that have taken place in a region long marked by physical isolation. There is also the issue, often emotive, of the demographic changes that have taken place, in particular in this century.

Greater awareness has brought about inevitable comparisons of material and economic well-being. These are not only with the rest of India, but the in the context of the visible successes of South East Asia, and the rapidly

changing face of South China. It is significant that the North East as a whole shares only two percent of its borders with the 'rest of India' and 98 percent with other countries - Bangladesh, Myanmar, China and Bhutan.

## A1. Development and Disquiet

Development, or the lack of it, has contributed to the disquiet that has characterised much of the North East. The region continues to be marked by low agricultural productivity, poor infrastructure, tenuous communications and low levels of industrial activity. **Conscious of its exceptional features (and of its strategic significance), the Centre has traditionally considered the North East as deserving of singular treatment.**

There is also recognition, in theory, of the fact that Government needs to play a special role in promoting development, in creating infrastructure and stimulating economic activity, through facilitation and as an active participant. **The States of the North East have been benefited by the fact of having been declared 'Special Category States'. Per-capita Plan Assistance has been higher, and the terms on which such assistance has been extended have been more favourable.** In addition, sectoral subsidies and other concessions have been operated by Ministries of the Government of India (GOI), for instance investment and transport subsidies, freight equalisation for industrial inputs, and differential subsidy norms for agricultural inputs. 'Special Packages' of governmental investment have been formulated from time to time, often, but not always as additionality.

**Despite these measures, there is evidence to show that the gap between the North East and the rest of the country has widened.** There are objective criteria on which this perception is based - relative rates of growth of State Domestic Product and its components, including industrial output, poverty ratios, delivery of basic services. Most importantly, the region continues to perceive itself as distant and distinct, and unable to participate in the benefits of an expanding, growing economy.

## A2. Liberalisation – Distancing the Periphery?

In the last decade there has been a change of immense significance - an unprecedented and continuing process of economic reform and adjustment. Available data indicates that in the 1990s the pattern of incremental investment has been skewed in favour of regions with relative advantages in infrastructure, communication and transportation access, an established environment for entrepreneurship, and the availability of a skilled work force. **The North East suffers on all of these counts in comparison with other regions of India, and is therefore at risk of sliding further away on the economic horizon.**

The option of compensatory investment in the public domain is not one that has always been exercised in the past in favour of the North East<sup>1</sup>. **In today's context however, it may be even less of a possibility, given that a growing part of the Centre's own expenditures are foreclosed by increasing revenue obligations. The Centre's inability to curb its own deficits has impacted on plan and real transfers to the States. Secondly, the move towards domestic deregulation has deprived the Government of many of its powers to steer private investment into backward areas. This has led to a possible paradox - if regulation has not contributed to equitable regional development, deregulation is even less likely to do so. And**

<sup>1</sup> On account of apprehensions of security, investments in large public sector industries in the region have often been deferred, scaled down, or relocated.



finally, even as regulatory structures have loosened, incentive based arrangements to persuade private sector investment into the North East have been diluted or even withdrawn<sup>2</sup>.

It is therefore extremely important that the North East receive special and focused attention of the Centre and from the Planning Commission. The States of the region must be enabled to overcome their handicaps and disadvantages.

## B. Assam – The Land and The People

Bordering six States<sup>3</sup> and two countries<sup>4</sup>, the State of Assam constitutes about 2.4 percent of the country's geographical area. Its 26.64 million people (2001 Census) account for 2.59 percent of the country's population. The population density of 340 persons per square kilometre is marginally higher than the average density for the country (324 persons per square kilometre).

**Most of Assam's population lives in the lush and verdant valleys of its two major river systems, in the 18 districts of the Brahmaputra valley and the three districts of the Barak valley. Less densely populated are the two hill districts of Karbi Anglong and the North Cachar Hills, set in the low-lying hills that separate the two valleys.**

The districts vary considerably in size and population. The sprawling district of Karbi Anglong, almost 10,500 square kilometres in area, is nearly eight times as large as Hailakandi district.

Although the average population per district is 1.6 million, the range covers the 2.52 million population of Kamrup district, as well as the 186,000 persons residing in the North Cachar Hills. The spread of population densities is even larger. The most densely populated district, Nagaon (604 persons/ square kilometre) has a population density almost 16 times that of the least densely populated district, North Cachar Hills (38 persons/ square kilometre). Dhubri, Kamrup, Karimganj, Barpeta and Nalbari all have population densities in excess of 500 persons per square kilometre.

According to the 1991 Census, 12.82 percent of the population of Assam are classified as Scheduled Tribes and 7.40 percent as Scheduled Castes. Most people (67.13 percent) profess the Hindu religion, while 28.43 percent are Muslims and 3.32 percent are Christians. There are also adherents of other religions – amongst them Buddhists (0.29 percent), Jains (0.09 percent) and Sikhs (0.07 percent).

Most people in Assam, in fact seven of every eight people (87.28 percent), live in rural areas. In Nalbari district almost 98 percent of the population lives in villages. In another 12 districts more than 90 percent of the population lives in rural areas. The figure for Kamrup district, the lowest in the State at 64.2 percent, reflects the size of the Guwahati urban agglomeration. In fact, North Cachar Hills has about 69 percent of its population living in rural areas, a low figure in comparison with most other districts. This is due to the sparsely populated nature of the district, and the relatively high number of people residing in its three urban settlements.

The overall figures for the State are however unequivocal. Even in the first decade of the 21<sup>st</sup> century, the overwhelming bulk of Assam's population lives in rural areas.

<sup>2</sup> The efficacy of incentive based policies is debatable as shown by the Assam experience. Industries attracted to a region by fiscal incentives alone are likely to last in the region only as long as the incentives do.

<sup>3</sup> Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland and Tripura

<sup>4</sup> Bangladesh and Bhutan

### The Districts of Assam<sup>5</sup>

District	Area	Population	Density	Rural population (% of total)
Dhubri	2,838	1,635	584	88.38
Kokrajhar	3,129	930	294	93.23
Bongaigaon	2,510	906	361	87.86
Goalpara	1,824	822	451	91.85
Barpeta	3,245	1,642	506	92.39
Nalbari	2,257	1,138	504	97.63
Kamrup	4,345	2,515	579	64.21
Darrang	3,481	1,504	432	95.08
Sonitpur	5,324	1,678	315	91.18
Lakhimpur	2,277	889	391	92.69
Dhemaji	3,237	569	176	93.15
Morigaon	1,704	776	455	95.10
Nagaon	3,831	2,315	604	87.99
Golaghat	3,502	946	270	91.65
Jorhat	2,851	1,009	354	83.05
Sibsagar	2,668	1,053	395	90.79
Dibrugarh	3,381	1,172	347	81.23
Tinsukia	3,790	1,150	303	80.52
Cachar	3,786	1,442	381	86.06
Karimganj	1,809	1,004	555	92.73
Hailakandi	1,327	543	409	91.71
Karbi Anglong	10,434	812	78	88.55
NC Hills	4,888	186	38	68.82
<b>ASSAM</b>	<b>78,438</b>	<b>26,638</b>	<b>340</b>	<b>87.28</b>

## B1. Filling Up the Land with People

In the 20<sup>th</sup> century, between the years 1901 and 2001, the population of the State increased by a little over eight fold, clearly outpacing the average rate of growth of population in the rest of the country. Today, the population of Assam is 26.64 million people, of which 13.78 million are men and 12.85 million are women. The population density has increased from 41.94 persons per square kilometre to 340 persons per square kilometre. (The population density in India as a whole was 77 persons per square kilometre in 1901 and is 326 persons per square kilometre according to the 2001 Census).

An examination of the trends in population growth shows that the decadal variation in population in Assam has been very much larger than that in India as whole, especially in the first half of the century. Subsequently too, the growth in population in Assam has been substantially larger than in India. It is only in the last decade that the decadal variation in Assam has declined to a rate less than that of India<sup>6</sup>.

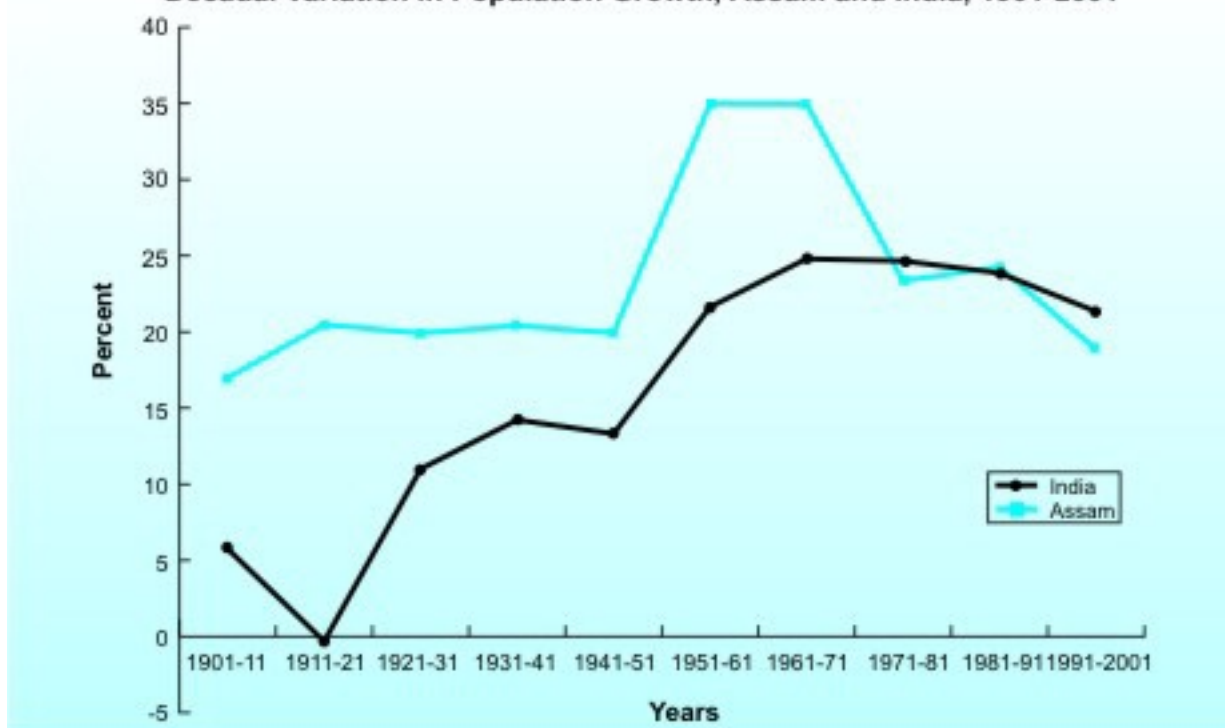
<sup>5</sup> Source: Census of India, 2001

<sup>6</sup> Census data shows that in 1921; the percentage of immigration to total population was as high as 24 percent for males and 20 percent for females. On the average this percentage has been declining by about 2 percent every decade. In 1991, the percentage of male immigrants to total population had dropped to 4.23 percent while that of female immigrants was 3.55 percent.

### Decadal Percentage Variation in Population Since 1901<sup>7</sup>

PERIOD	INDIA	ASSAM
1901-11	5.75	16.99
1911-21	-0.31	20.48
1921-31	11.00	19.91
1931-41	14.22	20.40
1941-51	13.31	19.93
1951-61	21.64	34.98
1961-71	24.80	34.95
1971-81	24.66	23.36
1981-91	23.86	24.24
1991-2001	21.34	18.85

Decadal Variation in Population Growth, Assam and India, 1901-2001



<sup>7</sup> Source: Census of India, various years

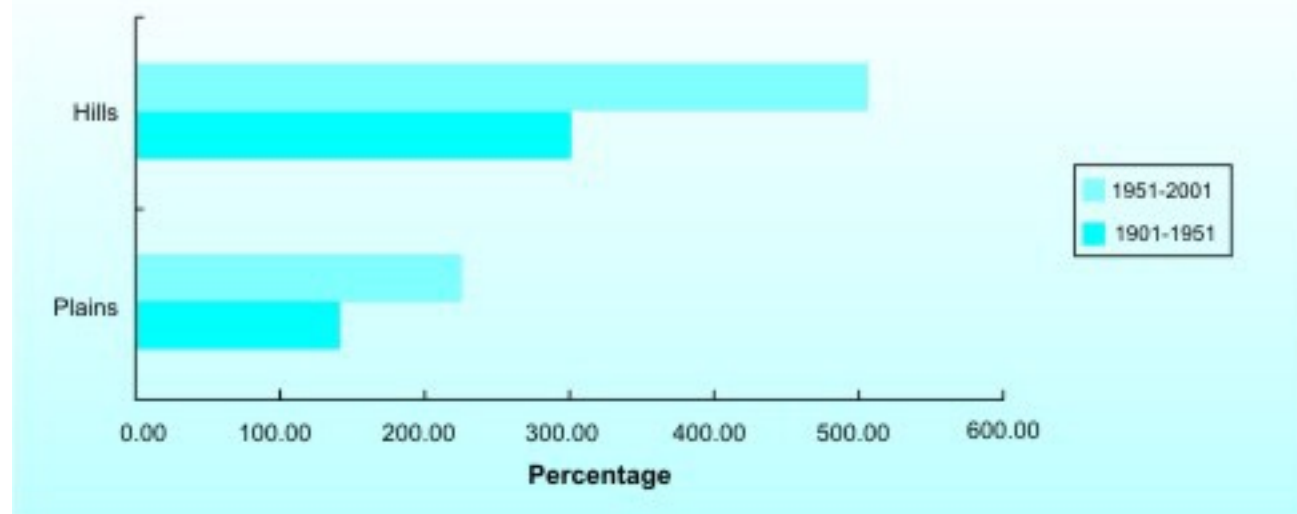
The density of population also increased from 42 people per square km to 340 people per square kilometre. This has put increasing pressure on the land. In fact if the two hill districts are separated from the rest of Assam, the density in the plains is as much as 406 people per square kilometre.

In the hill districts too the population density has increased substantially, the largest increases being in the 1931-41 period and then after 1961. In the 1971 to 1991 period too there has been a major increase in population densities in the hill districts. While densities are low compared to the rest of Assam, they are more than six times what they were in 1951. Only a million people live in the hill districts and the bulk of Assam's population is concentrated in the plains districts of the State.

### Increase in Population and Population Density, in Assam Since 1901<sup>8</sup>

Year	Assam		Plains districts		Hill districts	
	Population	Density	Population	Density	Population	Density
1901	3,290	41.94	3,249	51.48	41	2.68
1911	3,849	49.07	3,822	60.56	27	1.76
1921	4,637	59.12	4,608	73.00	29	1.89
1931	5,560	70.88	5,527	87.57	33	2.15
1941	6,659	85.35	6,562	103.97	133	8.68
1951	8,029	102.36	7,864	124.60	165	10.77
1961	10,837	138.16	10,558	167.28	279	18.21
1971	14,625	186.45	14,170	224.51	455	27.70
1981	18,041	230.00	N.A.	N.A.	N.A.	N.A.
1991	22,414	285.75	21,600	342.23	814	53.13
2001	26,638	340.00	25,640	406.00	999	65.20

### Percentage Rates of Growth of Population Densities



<sup>8</sup> Source: Census of India, various years

### Decadal Variations in Population, Assam, 1901-2001<sup>9</sup>

District	1901-11	1911-21	1921-31	1931-41	1941-51	1951-61	1961-71	1971-91	1991-2001
Dhubri	29.97	26.92	15.76	14.83	9.25	27.10	40.51	56.57	23.42
Kokrajhar	29.97	26.92	15.76	14.83	9.25	44.18	54.30	76.78	15.05
Bongaigaon	29.94	26.94	15.94	14.97	9.31	60.81	40.29	64.64	12.23
Goalpara	29.97	26.92	15.76	14.83	9.25	37.10	45.88	54.12	23.07
Barpeta	20.02	34.04	69.02	44.04	18.77	32.62	35.81	43.02	18.53
Nalbari	13.33	14.20	27.92	29.43	17.89	49.62	42.02	49.27	11.98
Kamrup	11.10	7.06	9.38	19.21	17.17	37.75	38.80	65.72	25.75
Darrang	-0.25	11.78	26.00	35.50	24.13	44.75	43.24	55.63	15.79
Sonitpur	24.33	40.69	20.50	19.73	24.26	35.82	27.62	57.14	17.80
Lakhimpur	26.29	34.07	23.91	22.70	17.94	50.46	43.39	16.29	18.34
Dhemaji	26.29	34.07	23.92	22.69	17.94	75.21	103.42	107.50	18.93
Morigaon	15.84	31.94	41.35	15.37	36.63	37.89	37.51	50.90	21.29
Nagaon	15.84	31.94	41.35	15.37	36.65	33.91	38.99	51.20	22.30
Golaghat	16.55	19.83	18.29	1.27	19.76	26.04	30.35	58.12	14.21
Jorhat	16.90	17.26	8.88	15.27	14.87	24.17	17.47	83.10	15.84
Sibsagar	13.41	20.46	14.44	15.64	15.98	23.36	19.47	38.76	15.95
Dibrugarh	26.29	34.07	23.91	32.70	17.94	30.64	22.93	37.78	12.43
Tinsukia	26.29	34.07	23.92	32.70	17.94	35.92	31.03	47.03	19.52
Karbi Anglong	--	--	--	--	30.95	79.21	68.28	74.72	22.57
NC Hills	-33.12	5.92	13.60	13.75	6.16	36.93	40.00	98.30	23.47
Karimganj	12.94	3.91	8.91	9.52	29.87	22.96	25.13	42.08	21.35
Hailakandi	16.09	7.59	7.08	10.29	17.48	27.23	23.61	45.94	20.92
Cachar	12.33	5.98	7.60	13.08	23.92	22.60	23.96	47.59	18.66

There are discernible trends in this analysis of district-wise decadal variations in population. Most districts have sustained high increases of population in the pre-Independence period, in particular the lower Assam districts, and the tea growing districts of Upper Assam and the North Bank. Post-Independence, while the Lower Assam districts have sustained high increases, the districts of Lakhimpur and Dhemaji have also seen population increases of a high order, as have the sparsely populated hill districts. Post-1991, the rate of increase all over Assam has stabilised.

## B2. Sex Ratio – Improvements in Recent Decades

At the beginning of the 20<sup>th</sup> century, the sex ratio in Assam was decidedly adverse. It has improved significantly in recent decades. There are now 932 women for every 1000 men in the State, compared to 933 per 1,000 for the country as a whole<sup>10</sup>. Significantly, the improvement in Assam has come when the sex ratio for the country as whole has been declining. This is an extremely positive development.

<sup>9</sup> Source: Census of India, various years

<sup>10</sup> The sex ratio in Assam is substantially lower than the sex ratio in most other States of the North East. Manipur (978), Meghalaya (975), Tripura (950), Mizoram (938) have more favourable sex ratios than Assam; However Arunachal Pradesh (901), Nagaland (909) and Sikkim (875) have sex ratios which are more adverse than Assam.

In 1901, there were 919 women for every 1000 men in Assam. This ratio became particularly adverse in the 1950's and was then as low as 868 per 1000. Since then it has improved substantially, registering an impressive increase during the last fifty years. The sex ratio for India during the same period actually declined from 946 in 1951 to 933 in 2001.

The percentage of women in Assam is more or less similar to the percentage at the national level, just over 48 percent. An analysis of the population break up according to age shows an encouraging trend. The proportion of girl children in the age group 0-6 years is more equitable in Assam than in the country as a whole, and this has positive implications for the sex ratio in the future.

### Population of Assam, 2001, by Age and Gender<sup>11</sup>

	Total population			Child population in the age group 0-6		
	Persons	Males	Females	Persons	Males	Females
India	1,027,015,247	531,277,078	495,738,169	157,863,145	81,911,041	75,952,104
Assam	26,638,407	13,787,799	12,850,608	4,350,248	2,215,104	2,135,144
India (%)		51.73	48.27		51.89	48.11
<b>Assam (%)</b>		<b>51.76</b>	<b>48.24</b>		<b>50.92</b>	<b>49.08</b>

### B3. Age Structure of the Population

The structure of population in terms of age has a bearing on the socio-economic life of the people. The composition of the population in the State has undergone substantial change in the period 1971-1991.

- The proportion of population in the age group 0-14 years decreased from 46.9 percent in 1971 to 40.2 percent in 1991, reflecting a decline in the fertility rates. There was however an increase in the percentage of women in the childbearing age group 15-49 years, from 43.4 percent in 1971 to 49 percent in 1991.
- The percentage of people in the working age-group 15-59 years in 1991 was 54.1 percent as against 48.4 percent in 1971.
- The proportion of persons belonging to the age group 60 years and above was 4.7 percent in 1991, compared to 4.1 percent in 1971, indicative of the increased life expectancy in the State.

<sup>11</sup> Source: Census of India, 2001

### Assam: Age Structure of the Population

Age group (years)	1971			1991		
	Persons	Males	Females	Persons	Males	Females
0-4	17.0	16.0	18.1	13.4	13.1	13.8
5-9	16.6	15.8	17.5	14.7	14.3	15.1
<b>10-14</b>	<b>13.3</b>	<b>13.1</b>	<b>13.5</b>	<b>12.1</b>	<b>11.9</b>	<b>12.3</b>
15-19	8.5	8.4	8.8	9.9	9.8	10.1
20-24	7.6	7.4	7.8	9.0	8.7	9.4
25-29	7.6	7.4	7.7	9.0	8.5	9.5
30-34	6.1	6.3	5.9	6.9	7.0	6.7
35-39	5.7	6.1	5.3	6.1	6.5	5.6
40-44	4.4	4.8	4.0	4.4	4.8	4.0
<b>15-45</b>	<b>42.2</b>	<b>43.0</b>	<b>41.5</b>	<b>47.7</b>	<b>47.9</b>	<b>47.5</b>
45-49	3.5	4.0	2.9	3.7	4.0	3.0
50-54	3.1	3.4	2.7	3.1	3.2	2.9
55-59	1.9	2.2	1.6	2.0	2.2	1.8
<b>15-59</b>	<b>48.4</b>	<b>50.0</b>	<b>46.7</b>	<b>54.1</b>	<b>54.7</b>	<b>53.3</b>
60-64	1.9	2.1	1.8	2.2	2.2	2.1
65-69	0.9	1.1	0.8	1.1	1.2	1.0
<b>60-69</b>	<b>2.8</b>	<b>3.2</b>	<b>2.6</b>	<b>3.3</b>	<b>3.4</b>	<b>3.1</b>
70+	1.3	1.4	1.1	1.4	1.6	1.3
80+	0.5	0.5	0.5	0.7	0.7	0.6

#### B4. Urbanisation in Assam - Less Than Half That of India

About 11 per cent of the population of Assam lived in urban areas in 1991, in contrast to the all India figure of 24 per cent (1991)

The urban population in 1951 was 4.29 percent of the total. It increased to 11.10 percent in 1991 and in the 2001 Census it has increased marginally. The rate of growth of urbanisation in Assam in this period was faster than that of India.

Even so, Assam (12.72 percent in 2001) is still much less urbanised than most States in the country. It is still an overwhelmingly rural society<sup>12</sup>.

Here too there is large inter-district variation. Kamrup has 260 square kilometres of urban area. In Dhemaji district, only 4 square kilometres are classified as urban area, and in Hailakandi district only 9 square kilometres are classified as urban area.

<sup>12</sup> There are less than a hundred towns in Assam and in many districts the district head quarters and one additional sub - divisional town are the only urban centres.



**Urbanisation in Assam, 1991 Census**  
(Districts ranked by the size of urban population)

District	Number of Towns	Urban area in sq. kilometres	Urban population
1. Kamrup	7	259.07	655,215
2. Nagaon	7	35.52	205,722
3. Dibrugarh	6	29.74	183,580
4. Dhubri	7	27.24	161,981
5. Tinsukia	6	40.69	158,674
6. Jorhat	3	69.64	133,032
7. Cachar	2	16.08	119,224
8. Sonitpur	4	27.37	103,908
9. Barpeta	7	22.83	97,318
10. Bongaigaon	5	16.64	73,854
11. Karbi-Anglong	6	36.99	70,466
12. Sibsagar	5	30.15	65,689
13. Darrang	4	14.86	63,984
14. Karimganj	3	12.19	60,381
15. Goalpara	2	17.96	52,096
16. Kokrajhar	3	17.20	50,724
17. Lakhimpur	2	15.74	49,130
18. Golaghat	3	18.24	48,838
19. NC Hills	3	17.79	34,486
20. Hailakandi	2	8.75	34,138
21. Morigaon	3	17.92	32,989
22. Nalbari	2	13.90	23,475
23. Dhemaji	1	3.50	8,891

**Assam – Growing Urbanisation**

	Number of towns	Area covered (sq. kilometres)	Population
1991	93	770.01	2,487,795
1971	72	434.53	1,289,222
1961	53	249.35	781,288
1951	24	103.60	344,831

## C. Assam: An Economic Profile

Nature has been bountiful in Assam. The State possesses an estimated 320 million tonnes of coal reserves, oil and natural gas reserves sufficient to sustain current production levels for at least another fifty years, and a vast, though largely untapped potential for power generation. Locationally there are several positive attributes. Guwahati is the communications and transportation hub for much of the North East. The State's waterways can transport goods cheaply and efficiently. There is an extensive and growing railway network, one that is being converted in substantial part to broad gauge. The State is well placed to service the needs and markets of other States of the North East. A modicum of incremental investment would allow access to other countries, in particular to the growing economies of South East Asia.

**A nascent industrial infrastructure, capable of being built upon, already exists in Assam.** There are four oil refineries<sup>13</sup>, several large and medium sector manufacturing industries, including sugar mills, textile spinning units and processing houses, cement plants and fertiliser units. All of this is in addition to the traditional strengths in tea<sup>14</sup> and jute. There is potential to set up industries in the hydrocarbon sector - gas cracker plants, aromatic complexes and downstream and ancillary industries.

Despite this, Assam's economic development is lagging behind that of the rest of the country – and the gap is increasing. At Independence, Assam's per capita income was only marginally less (a difference of 4 percent) than that of the average for the country. In 1998, the average per capita income for the country was over 1.8 times that of Assam. **The relative stagnancy in the growth of income is attributable in turn to the inability of each of the component sectors to grow at rates that would allow the State to reach the levels attained by the rest of the country.**

Industrial diversification and growth has been constrained by the inadequacy and quality of complementary infrastructure, the geographical isolation of the region, and the lack of well developed markets. There are few traditions of indigenous entrepreneurship, and the tentativeness of private investment from outside the State has necessitated a major, if not always efficient, role for the State.

**In the agriculture sector, the overall growth rates since the 1980s has been a little over 2 percent, rates not sufficient to generate surpluses for investment, or create purchasing power in the rural sector to provide a market for local industries.** Cropping intensities and crop productivities remain low, and crop diversification is, at best, nascent. Fragmentation of holdings, low irrigation coverage and the limited adoption of new technologies and practices are some of the constraining factors. The regular occurrence and increasing intensity of floods is detrimental to the advancement of the sector. Not only do floods wreak annual havoc, but the accompanying uncertainty prevents farmers from taking risks and making investments in land improvement, and in higher cost, albeit high yielding, technologies and practices.

**The inability to build on the promise afforded by the horticulture sector is largely attributable to the deficiencies in complementary investments, in storage, rural transportation networks and in market facilities.** For the same reasons, fisheries, poultry farming and dairy are yet to acquire the momentum required to raise incomes substantially and sustainably. Post-1997, timber processing and related industries have

<sup>13</sup> Digboi, Guwahati, Bongaigaon and Numaligarh

<sup>14</sup> There are 848 tea gardens, accounting for about 11 percent of the State's income, producing approximately 400 million kgs of tea, including 160 million kgs for export

suffered setbacks, and consequent economic activity, income and employment are at levels much lower than even a decade ago.

**In absolute terms, the number of poor people in the State increased from 7.8 million in 1983 to 9.5 million in 1999-2000.** In 1999-2000, 36.09 percent of the State's population continued to live below the poverty line, a figure appreciably above the national average (26.10 percent)<sup>15</sup>. Only four States had a higher proportion of their population below the poverty line - Bihar, Madhya Pradesh, Orissa and Rajasthan.

## D. Meeting the Challenges: Providing Good Governance

There are indeed many challenges that confront the State and its people. Adding to their complexity are two sets of issues that, if not unique to Assam, have certainly been exceptional in the duration of their existence, the intensity of their occurrence, and the extent of their impact.

The first of these is the fact of decades of unrest, agitation, and at a later stage, insurgency. While the development of these is not necessarily sequential, it is true that grievances, unless addressed, will lead to more intense forms of protest. **Inequities, lack of development, perceived discrimination and lack of opportunities for employment can, and have, contributed to discord and strife. Such situations are rarely, if ever, conducive to development.** They necessitate reorientation of financial and administrative resources towards maintenance of law and order<sup>16</sup>, constrict the flow of funds for development, raise uncertainty and economic risk, discourage enterprise and investment, lower employment and income opportunities, and impact adversely on governance and the ability of the State and its functionaries to provide basic services and respond to felt needs. Paradoxically, they may end up accentuating the very grievances that they sought to highlight and address.

**Secondly, the State has functioned for over a decade now under severe fiscal stress.** Some of its causes are not atypical of many States in a similar predicament – negative savings from investment in the public sector, growing revenue expenditures – on salaries, wages, pensions and establishments, the increasing cost and scale of public debt, and the lack of buoyancy in State revenues. The uncommonly adverse circumstances of Assam acquire significance, given the challenges posed to peace and stability, and the fact that Assam's growth has been stunted in this period, to the point where it is beginning to lag seriously behind most of the States of the country. In simple terms, there is a mismatch, between the resources needed to provide basic services, maintain assets, promote growth and development, and create infrastructure, and the resources available to the State of Assam.

These are exceptional circumstances, and a particularly difficult situation requiring extraordinary support from the Centre and the Planning Commission. The people of Assam and the State Government must be enabled, with resources and support from the Centre, to meet these challenges.

**Development is, however, not just about resources and technologies, but is intricately connected to governance, to equity and justice, transparency and effectiveness, human rights and the rule of law.** The State Government has a particular responsibility as well, to provide not merely administration, but good governance. The latter can be measured by the extent of participation of the people, transparency in administration, responsiveness and efficiency.

<sup>15</sup> Source: Ministry of Urban Development and Poverty Alleviation, Government of India, New Delhi

<sup>16</sup> In 1999, more than Rs. 500 crores was spent on the maintenance of the police force in the State

Impediments to good governance can arise from several quarters. Persisting fiscal imbalances, severe disparities and inequities, societal insecurity and threats to law and order, lack of access to basic services like health, education, shelter and water, discrimination, and the lack of transparency and trust can weaken efforts to provide good governance.

**The Government of Assam recognises the need to review and transform the systems of administration and delivery, and is committed to an administration that is accountable and transparent.** Several measures have already been taken to make the system more efficient and approachable.

These include the setting up of the *Rajjor Podulit Rajjor Sarkar* (RPRS) initiative, a part of the Government's efforts to bring administration closer to the people, and to make it more responsive to public needs. **Placing people at the centre of the development process, the RPRS seeks to build partnerships with communities and the people, to create awareness of Governmental efforts, and to function as a grievance redressal mechanism.** Among other measures taken to make the Government more approachable, efficient and transparent are the establishment of facilitation centres in districts to improve the interface of the people with the Government. A 12-point work ethic, representing guidelines to be followed by every employee, relating to his work, and the interface with the public, has been formulated.

**Lending credence to the State's stated position of encouraging the decentralisation of power and decision making, and devolving responsibility and empowering people at the grass root level, elections to Panchayati Raj institutions were held in December 2001, after a gap of six years.** The intention is to confer responsibilities for developmental activities to the people who are likely to benefit from them. This devolution enjoins upon the people a sense of belonging and pride, and also makes them accountable for their own development and for the choices they make. Women won more seats than the 33 percent reservation in the recent Panchayat elections. At the Zilla Parishad level, 36 percent of the elected representatives are women. At the intermediate level women won 37 percent of the seats and the figure was 38 percent at the Gaon Panchayat stage. This reflects the increasing participation of women in local self-government and will lead to significant changes in gender equations in rural Assam, in the coming years.

**The Assam Human Rights Commission, only the third to be constituted in the country, and the first in the North East, has, in the decade since its inception, made significant contributions towards enhancing people's awareness about human rights and the safeguards available for the protection of these rights.** It has organised seminars, workshops and conferences, and utilised the media and other fora to disseminate information and create awareness. A number of cases, many of them registered suo-moto, have been taken up, relating to the infringement of human rights, including custodial and dowry deaths, negligence in hospitals, environmental pollution, child abuse and domestic violence.

Peace and stability are important to complement and support good governance. The Government has sought to restore the confidence of the people, reduce the level of violence, and promote an environment in which development can take place.

**As succeeding chapters will elaborate, there are major areas of concern, of inequity and asymmetrical growth. There is a gap between Assam and the rest of the country, and this gap has grown wider. There is a need to review the existing approaches and to identify and implement alternative approaches to the development of Assam, and of the North East. Similarly, if there are differences in access, attainment**

and provisioning within the districts of Assam, then there is a need to prioritise resources and efforts, and to develop and implement strategies that will narrow the gaps, and lead to higher levels of growth and development for the State.

## E. Assam: Profiling Human Development

For generations, economists have measured well being – of societies, economies and people – by the yardstick of income. In effect, if an economy produced more goods and services, then it was deemed to be better off than an economy that produced fewer goods and services. Growth was consequently measured by the increase of aggregate income in an economy. In the last few decades, this approach has been challenged by a growing perception, articulated and promoted by successive 'Human Development Reports' that 'the objective of human development is not simply to produce more goods and services for material enrichment, but to increase the capabilities of *all* people to lead full, productive and satisfying lives.'

**Conceptualised and initially articulated by UNDP's first Human Development Report in 1990, this is a perception that has grown into a global objective and a shared vision. UNDP stressed that 'the real wealth of a country is its people and the purpose of development is to create an enabling environment for them to enjoy long, creative and healthy lives.'** Since then, successive Human Development Reports have asserted that human development is the process of enlargement of people's choices, and that **at all levels of development, there are three essential elements of human development - to enable people to lead long and healthy lives, to access knowledge and education, and to possess the resources needed for a reasonable standard of living. Consequently, three areas have been identified as being of primary social concern - health, education and material well-being.**

Building on this concept, a measure of human development has been evolved, which is a composite of pivotal indices of health, education and income. The specific indicators utilised in the construction of this composite measure are life expectancy at birth as a gauge of health, literacy and mean years of schooling (or as an alternative, the combined enrolment ratio) as a measure of education, and per capita GDP (adjusted for purchasing power parity) as an indicator of material well-being. The simplicity and easy applicability of the Human Development Index is responsible for its near universal acceptability, but what is perhaps more important is the new orientation that the Human Development Report has given to the idea of development.

The basis for the computation of the Human Development Index (HDI), for Assam, and for each of the districts of the State is given in the Technical Note appended to this report.

As the discussion and debate on the dimensions of human development has progressed, a need has been felt for specific indicators to capture the complexity and proportions of elements of human

### The Gender Dimension

The Gender-related Development Index (**GDI**) measures the overall achievements of women and men in the three dimensions covered by the HDI - life expectancy at birth, educational attainment and estimated female and male income, reflecting women's and men's command over resources - and looks at gender inequalities. It is simply the HDI adjusted downwards for gender inequality.

The Gender Empowerment Measure (**GEM**) looks at the level of participation of women in the economic and political life of a country as compared to men. It is constructed on the basis of four indicators - the percentage of seats held by women in the Parliament, the percentage of women administrators and managers, the percentage of women professionals and technical workers and the share of women in national income.

development, for instance of gender asymmetry. In recent years, two indicators of relevance to the assessment of gender disparities have found acceptance. These are the Gender-related Development Index (GDI), and the Gender Empowerment Measure (GEM).

Another concept has been developed, of the Human Poverty Index (HPI). This is in response to another need, of an index that would provide an indication of deprivation in its widest sense – not just the lack of income, but the fact of deprivation in the context of basic services as well. This is intended to focus attention on concerns of developing countries and on groups of people who are ‘deprived’. While the HDI measures overall progress in a country in achieving human development, the Human Poverty Index (HPI) reflects the distribution of progress and measures the backlog of deprivations. The HPI measures deprivation in the same dimensions of basic human development as the HDI.

#### **The Human Poverty Index (HPI): Measuring Deprivation**

The determinants used to calculate human poverty are the deprivation in longevity (persons not expected to survive beyond the age of 40), the deprivation in knowledge (measured by the number of illiterate persons) and the deprivation of a decent standard of living (measured by the percentage of people without access to safe drinking water, health care facilities and the percentage of underweight children).

## **E1. The Need for a Human Development Report for Assam**

The dimensions of development have not been studied systematically so far for the State. Good governance and equitable access, to income, basic services and sustainable development are areas meriting attention.

**To plan for these goals, an assessment of the present status is imperative. This Human Development Report for Assam provides a basis for such an assessment.**

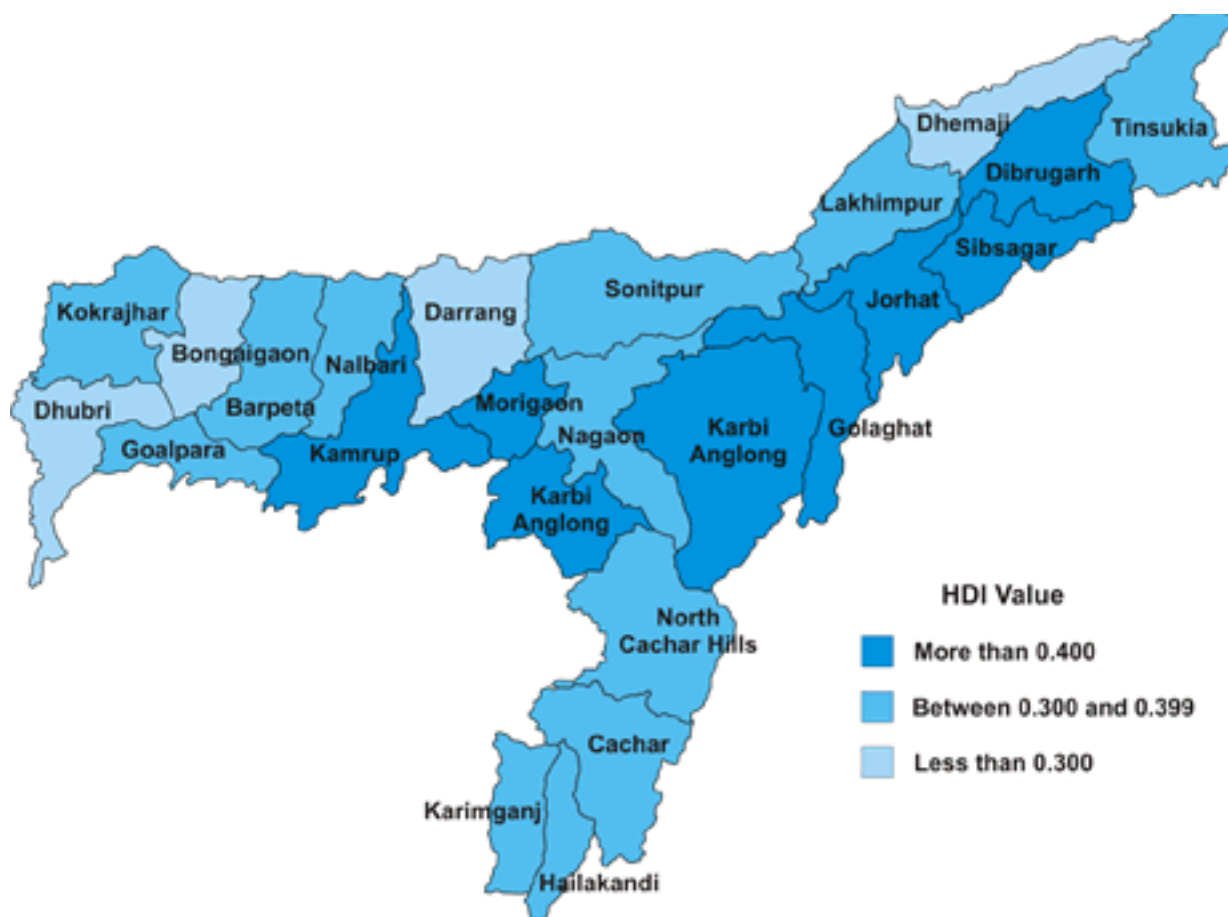
- **An assessment such as this offers a starting point for comparison** – across districts, and with other States of the country. Such a report provides a benchmark – of current status at the State and at the district level. It is therefore a level to be improved upon on. **Just as it is important to know where we want to go, it is important to know where we stand, and how far we still have to go.**
- **Objective assessments and analysis generate informed debate**, a vital element in participatory planning.
- **Comparisons – across districts, and other sub-State units afford a basis for prioritisation of scarce resources**, towards areas and groups of people that are disadvantaged and therefore in need of special attention.
- **In contrast to traditional planning and review, the emphasis in this report is on the assessment of outcomes, not inputs.** The focus is on educational attainment, not on buildings or the number of teachers, on indicators of health, not on the number of health centres, doctors and nurses, on achievements not on expenditures, on tangibility not on sanctions. It therefore focuses on efficiency and on impact, and encourages systemic accountability.
- **There are undoubted achievements and successes** – of communities, people, and individuals within the system, as well of approaches, programmes and schemes. **Highlighting such programmes, initiatives and best practices provides models for others to emulate and improve upon.**
- **A Human Development Report helps to put people in focus. It supports alternate paradigms of development that are participative, decentralised, and community centred.** It is a reminder that Government functions for the people.



## E2. Human Development in Assam

The Human Development Index for the State, and the corresponding indices for the districts have been calculated on the basis of the latest available data, for the year 2001.

Map of Assam with Colour Coding of Districts



### Human Development Indicators, Assam and Its Districts, 2001 Ranked by HDI Value<sup>17</sup>

Rank/ District	HDI Value	Income Index	Education Index	Health Index
1. Jorhat	0.650	0.564	0.722	0.664
2. Kamrup	0.574	0.573	0.701	0.450
3. Golaghat	0.540	0.409	0.650	0.564
4. Karbi Anglong	0.494	0.491	0.535	0.457
4. Morigaon	0.494	0.562	0.551	0.371
6. Dibrugarh	0.483	0.162	0.654	0.636
7. Sibsagar	0.469	0.242	0.702	0.464
<b>ASSAM</b>	<b>0.407</b>	<b>0.286</b>	<b>0.595</b>	<b>0.343</b>
8. Cachar	0.402	0.266	0.634	0.307
9. Barpeta	0.396	0.385	0.527	0.279
10. Tinsukia	0.377	0.082	0.571	0.479
11. Hailakandi	0.363	0.234	0.563	0.293
11. N C Hills	0.363	0.211	0.650	0.229
13. Sonitpur	0.357	0.071	0.552	0.450
14. Nagaon	0.356	0.179	0.583	0.307
15. Kokrajhar	0.354	0.145	0.474	0.443
16. Nalbari	0.343	0.076	0.641	0.314
17. Lakhimpur	0.337	0.154	0.657	0.200
18. Goalpara	0.308	0.146	0.536	0.243
19. Karimganj	0.301	0.078	0.620	0.207
20. Dhemaji	0.277	0.026	0.622	0.186
21. Bongaigaon	0.263	0.103	0.557	0.129
22. Darrang	0.259	0.057	0.514	0.207
23. Dhubri	0.214	0.102	0.454	0.086

- The HDI value derived for the State as whole was 0.407. There are significant variations across districts. Only seven districts have HDI values higher than the State average. The remaining 16 districts have HDI values lower than the State average, reflecting considerable inequity. Most of the Upper Assam districts and the districts of Kamrup and Karbi Anglong have HDI values higher than the average for the State. All the Lower Assam (except Kamrup) districts have HDI values lower than the State average. Nagaon, Hailakandi, Lakhimpur, Karimganj, Dhemaji and Darrang also have HDI values below the State average. Jorhat, the district that is ranked first, has a HDI value which is more than three times that of Dhubri, the lowest ranked district.
- The figures for the income index are very skewed. Only six districts (Kamrup, Jorhat, Morigaon, Karbi Anglong, Golaghat, and Barpeta) have income index values higher than the State average; the remaining 17 districts have income index values lower than the State average. The income index for Kamrup is more than twice the State average.
- Educational attainments measured by the education index are more evenly spread through the State with 11 districts ranked above the State average and 12 districts with educational index values below the State

<sup>17</sup> Source: Directorate of Economics and Statistics, Assam

average. The highest ranked district, Jorhat has an education index value a little over one and a half times that of Dhubri, which is ranked lowest.

- Ten districts have health index<sup>18</sup> values higher than the average for the State, and thirteen districts have health index values lower than the State average. The highest ranked district, Jorhat has a health index value nearly twice the State average.

### Human Development Indicators, Assam and Its Districts, 2001 by Rank<sup>19</sup>

District	HDI Rank	Income rank	Education rank	Health rank
Jorhat	1	2	1	1
Kamrup	2	1	3	7
Golaghat	3	5	6	3
Karbi Anglong	4	4	19	6
Morigaon	4	3	17	10
Dibrugarh	6	12	5	2
Sibsagar	7	8	2	5
Cachar	8	7	9	12
Barpeta	9	6	20	15
Tinsukia	10	18	13	4
Hailakandi	11	9	14	14
NC Hills	11	10	6	17
Sonitpur	13	21	16	7
Nagaon	14	11	12	12
Kokrajhar	15	14	22	9
Nalbari	16	20	8	11
Lakhimpur	17	13	4	20
Goalpara	18	14	18	16
Karimganj	19	19	11	18
Dhemaji	20	23	10	21
Bongaigaon	21	16	15	22
Darrang	22	22	21	18
Dhubri	23	17	23	23

### E3. Estimating the Human Poverty Index

The Human Poverty Index (HPI) for the State has been calculated on the basis of a sample survey, conducted jointly by the Directorate of Economics & Statistics Govt. of Assam and Omeo Kumar Das Institute of Social Change and Development in 1999. The study covered 17,140 sample households, in the 219 blocks and 52 urban centres in Assam<sup>20</sup>.

<sup>18</sup> The Health index has been calculated using the infant mortality rates because district wise data for life expectancy was not available.

<sup>19</sup> Computed by Directorate of Economics and Statistics, Assam

<sup>20</sup> The three determinants used to calculate human poverty are the deprivation in longevity, - persons not expected to survive beyond the age of 40, the deprivation in knowledge measured by the number of illiterate persons, and the deprivation of a decent standard of living - measured by the percentage of people without access to safe drinking water, health care facilities and the percentage of underweight children.

**Human Poverty Index in Assam, 1999<sup>21</sup>**

District	HPI (1999)
Sibsagar	10.31
Dibrugarh	13.98
Golaghat	14.52
Nalbari	15.63
Kamrup	17.44
Nagaon	19.16
Dhemaji	19.60
Lakhimpur	20.23
Morigaon	20.28
Jorhat	21.94
Barpeta	22.83
<b>ASSAM</b>	<b>23.24</b>
Darrang	23.30
Bongaigaon	24.03
Sonitpur	24.68
Goalpara	26.30
Hailakandi	27.00
Tinsukia	29.14
Cachar	29.22
NC Hills	31.44
Kokrajhar	31.51
Dhubri	31.98
Karimganj	33.38
Karbi Anglong	33.52

Karbi Anglong district has the highest HPI value of 33.52, indicating that this district has the highest number of people in human poverty, while Sibsaagar district has the lowest HPI-value, demonstrating that this district has the least number of people in human poverty<sup>22</sup>.

**These are indeed challenges that confront the State and its people.**

**The task has been identified – to achieve higher growth for all, to bring basic services within the reach of each and every citizen of the State, and to reduce disparities and inequities.**

**The contours of a road map to address these issues has been prepared and outlined in this report in succeeding chapters.**

<sup>21</sup> Source: Survey conducted jointly by Directorate of Economics & Statistics, Govt. of Assam and OKD Institute of Social Change, Guwahati, 1999. See technical note for computation details

<sup>22</sup> Two variants of the HPI have been calculated, the first uses the three indices mentioned above, the second uses a wider concept of HPI and estimates HPI by using two additional indicators - the number of people without access to sanitation facilities and pucca dwelling houses.

# Income, Employment and Poverty







# Income, Employment and Poverty

**A**s a consequence of twelve decades of British rule, the State of Assam at Independence inherited an economy and infrastructure that served largely colonial interests. It was dominated by extractive industries, and by the interests that owned and managed them. These included the tea, oil, coal, timber and plywood industries. These industries brought prosperity, in fact riches, to their almost exclusively British owners. **The tenor of Assam's economy was however substantially unchanged from that of the last years of Ahom rule, best described as a coalition of rural, largely self-sufficient village communities, with few linkages to the organised sector developed by British economic interests<sup>1</sup>.**

There were undoubted dividends from a century and more of British rule, notably an environment of stability and peace, and the introduction of Western education and modern systems of administration. **At Independence, however, Assam had only a modicum of industry, and relatively underdeveloped infrastructure, the latter largely catering to the interests of the tea industry.**

Half a century of planned development has brought about significant changes in the economic visage of Assam. Since Independence, there has been considerable development in the State on a variety of fronts. Assam is today the most industrialised state of the North East, accounting for nearly 70 percent of industry in the region. Although tea, coal and oil continue to be dominant in the economic profile of the State, there has been noteworthy diversification. Agricultural production has continued to grow, and there has been an impressive expansion of basic services and their outreach.

Most industries are engineering based (17 percent) or agro based (13 percent). Assam accounts for a significant proportion of crude oil production of the country and more than half of India's tea production. Till recently, plywood was a major industry; about 55 percent of the country's plywood came from Assam<sup>2</sup>. Assam also has rich and relatively unexploited reserves of minerals - coal, limestone, clay, sillimanite and gypsum.

Yet, Assam has levels of income and rates of growth of income, much below the average for the country. This chapter looks at the growth of income at the State and district level, and presents a sector-wise analysis of the trends in income. It examines the two main areas of livelihood - agriculture and industry - and seeks to explain the slow rate of growth of Assam's economy. An analysis of the employment situation; with a detailed survey of the unemployment statistics across the districts helps us to understand the incidence of poverty, which is addressed in the next section. Policy suggestions and the way forward are discussed in the last section.

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<sup>1</sup> In fact even the labour to work in the plantation sector was brought into Assam from other parts of India, from Jharkhand, Orissa and even Andhra Pradesh.

<sup>2</sup> 1997 was a watershed year for the timber and plywood industries of the State. Since then, output and employment have dropped notably.



## 1. Income

While income is no longer considered an exclusive measure of well-being, per capita domestic product is one of the three components of the Human Development Index. This is because income is an important determinant of access. **Income provides the means that allows people to attain well-being**, but income alone is not an indicator of well-being. Nor do per capita income figures necessarily reflect social well-being. Whether incomes get translated into long and healthy lives, higher education levels and better standards of living, is dependent on the choices that people, societies and governments make.

The process of modern economic development of Assam was initiated with the commencement of the First Five-Year Plan. During the last 50 years, although there has been progress in different sectors of economy, the growth in the State has been lower than the growth rate of the country as a whole. Of concern is the fact that the gap between Assam and India is widening, a trend that needs to be corrected urgently and substantively.

### A1. Growth of Net State Domestic Product (NSDP)

**Although there have been periods of relatively encouraging growth, the growth rate of NSDP has not kept pace with that of the country.** This is a trend particularly perceptible since the early 1970s. In recent years, (1992-97) the rate of growth of domestic product has slowed considerably, especially when compared to the encouraging growth rates for the country as whole.

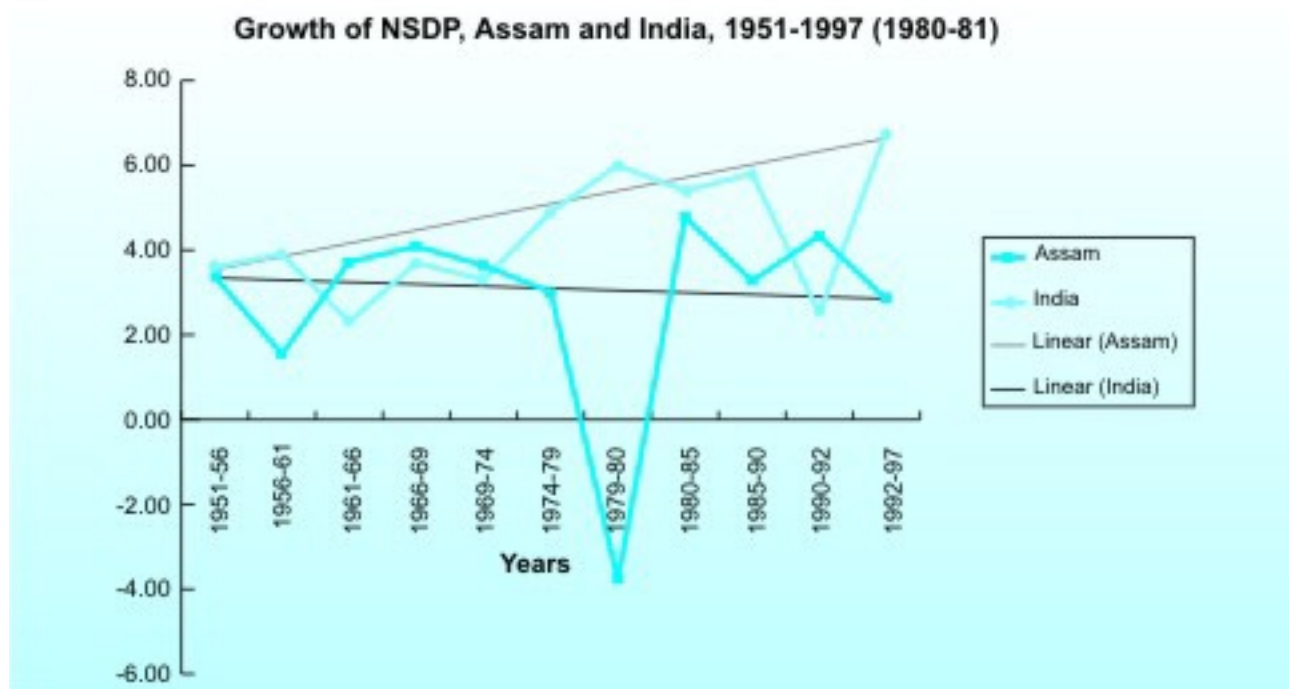
**Annual average growth rates of NSDP**  
(at 1980-81 prices)<sup>3</sup>

Period	Assam	India	Difference
1951-56	3.37	3.60	0.23
1956-61	1.55	3.90	2.35
1961-66	3.72	2.30	-1.42
1966-69	4.09	3.70	-0.39
1969-74	3.64	3.30	-0.34
1974-79	3.01	4.90	1.89
1979-80	-3.78	6.00	9.78
1980-85	4.78	5.40	0.62
1985-90	3.27	5.80	2.53
1990-92	4.34	2.50	-1.84
1992-97	2.83	6.80	3.97

While the Indian economy grew at 6 percent over the 1981-2000 period, Assam's GDP grew by only 3.3 percent<sup>4</sup>. Prior to this period, although there were differences in the rate of growth, the variations were relatively modest, in part because the Indian economy itself registered only moderate rates of growth. The period of widely diverging rates of growth appear to have commenced around the early 1980s. As the Indian

<sup>3</sup> Source: Directorate of Economics and Statistics, Assam

<sup>4</sup> Source: Assam Development Report, 2002, Planning Commission, New Delhi



economy began to register comparatively higher rates of growth, the economy of Assam stagnated, and in several respects, actually recorded negative growth. In the Sixth Plan period, the State witnessed a negative growth of 3.78 per cent against a growth of 6 per cent for India. The growth of NSDP for Assam was the highest in the Seventh Plan period at 4.78 per cent. The NNP for India was 5.4 per cent in the same period.

- In the 1990's the growth rate for India accelerated, but Assam experienced a slow down. Significantly, in this period of the commencement of the process of liberalisation, and the concomitant process of modifying the role of the Government, the gap between the rate of growth of economy of the State and of the country widened appreciably.

## A2. Sectoral growth rates

The growth of the domestic product can be examined within the three-sector framework of the primary, secondary and tertiary sectors<sup>5</sup>.

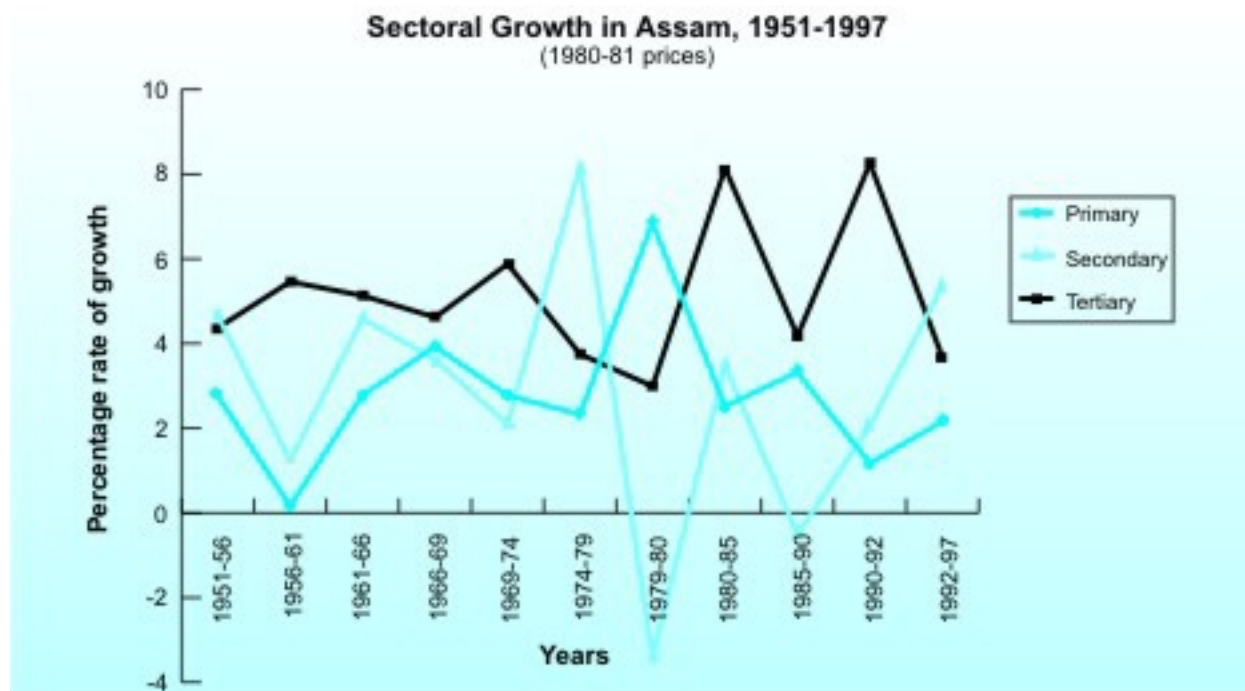
- The primary sector has recorded the lowest rates of growth, varying from 0.16 per cent during the Second Plan to a high of 3.93 per cent in the 1966-69 period<sup>6</sup>. In most periods the growth rate hovered around 2- 3 per cent.
- The secondary sector grew at a rate between 1 and 4.66 per cent till the Fifth Plan period, when the growth rate jumped to 8.18 per cent. During the Seventh Plan, the secondary sector registered negative growth of 0.51 per cent. However, in the Eighth Plan, a growth of 5.37 per cent was recorded in the secondary sector, the highest during all the Plan periods.

<sup>5</sup> The primary sector includes agriculture, livestock forestry, hunting, plantations and other allied activities. The secondary sector covers mining and quarrying, household industry and manufacturing. The tertiary sector includes trade and commerce, transport, storage and communication and other services.

<sup>6</sup> The fact of considerable variations in the year 1979-80, the only single year period in the tables, needs to be noted.

**Assam: Annual Average Growth Rate of NSDP (by Sector)**  
(at 1980-81 prices)

Period	Primary	Secondary	Tertiary
1951-56	2.77	4.66	4.37
1956-61	0.16	1.24	5.46
1961-66	2.78	4.59	5.13
1966-69	3.93	3.62	4.62
1969-74	2.77	2.10	5.88
1974-79	2.33	8.18	3.75
1979-80	6.85	-3.10	2.99
1980-85	2.52	3.48	8.14
1985-90	3.32	-0.51	4.18
1990-92	1.17	2.06	8.26
1992-97	2.16	5.37	3.67



- In almost all the Plan periods, the tertiary sector has registered a higher growth rate than the primary and secondary sectors. Even when the secondary sector had negative growth in 1979-80, the tertiary sector recorded a growth of 2.99 percent
- Of concern is the fact that the average annual growth rate for agriculture was only 2.6 percent per annum over the 1980's. It then slowed to 1.6 percent in the 1990s. Manufacturing growth has been slightly better in the 1990s than in the 1980s (3.4 percent against 2.4 percent).

- The services sector recorded the highest growth, but even this has been lower in the 1990s than in the 1980s.

The trends of the 1990s merit greater attention; the economy needs to be put on the track of fast – and sustained - growth<sup>7</sup>.

### A3. Per capita NSDP- Assam and India

**In the 1950s, soon after Independence, per capita income for Assam was a little higher than the average per capita income for India. It is now much lower than the average per capita income for India.**

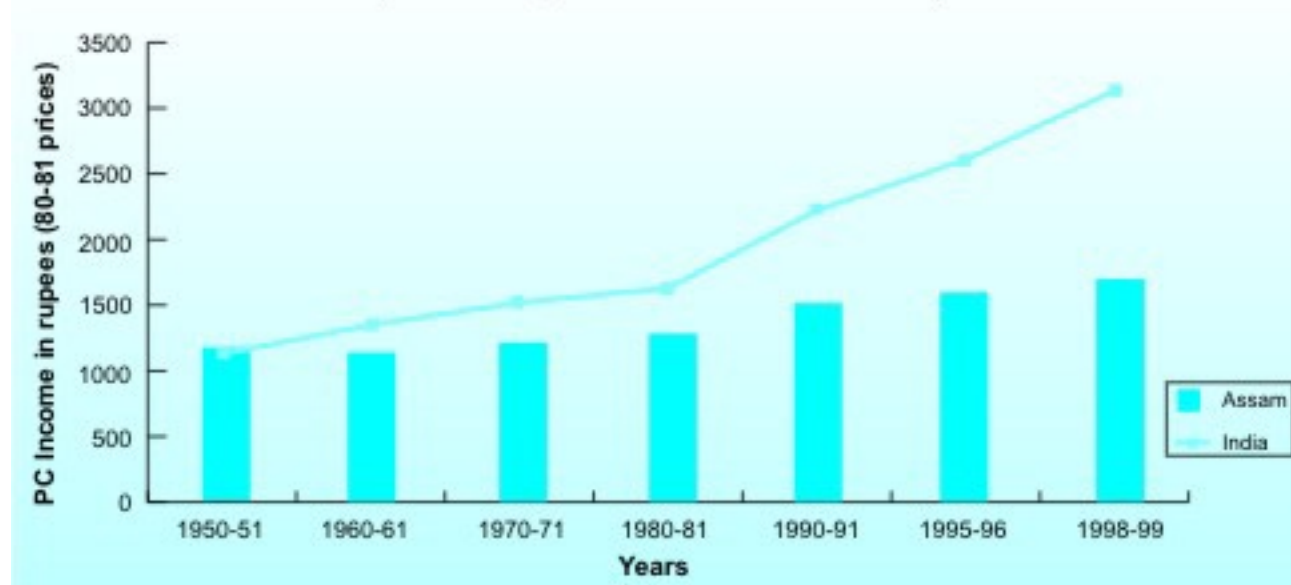
- Per capita income in Assam is lower than the all India figure and has been lower since 1960-61<sup>8</sup>.
- The difference between Assam's per capita income and that of India has been increasing.

#### Per Capita Income at Constant Prices (1980-81)

(In rupees)

Year	1950-51	1960-61	1970-71	1980-81	1990-91	1995-96	1998-99
Assam	1173	1140	1221	1284	1524	1606	1708
India	1127	1350	1520	1630	2222	2608	3132

#### Per Capita Income, 1950-51 to 1998-99: The Gap Grows



The per capita NSDP, in 2000-2001<sup>9</sup> was Rs 6,157 at constant (1993-94) prices. At current prices, it was Rs 10,198. This was 40 percent less than the per capita income figures for India, which in 2000-2001 were Rs 10,254 (at 1993-94 prices) and Rs 16,487 at current prices.

<sup>7</sup> Source: Assam Development Report, 2002, Planning Commission, New Delhi

<sup>8</sup> Source: Government of Assam, Vision Assam 2025

<sup>9</sup> Source: Economic Survey of Assam, 2001-2002

The per capita NSDP may not necessarily reflect an entirely accurate picture of per capita income. This is because it includes income from many sources that do not actually accrue to households - for example profits of public and private sector undertakings that are not entirely distributed to households. Value addition due to mining activities, forest based produce and other natural resources is also added to the State Domestic Product but does not get entirely transferred to households. **This is significant, given the structure of Assam's economy, with the major contribution of extractive and plantation based industries – in fact the effective gap at the household level between Assam and the rest of the country may be even wider.**

The gap in per capita income is widening – a trend that is evident in recent years, with relative stagnation starkly visible against impressive rates of growth recorded by the country's economy.

### Per Capita Income, Assam and India<sup>10</sup>

Year	At Current Prices		At Constant (1993-94) Prices	
	Assam	India	Assam	India
1993-94	5715	7698.2	5715	7698.2
1994-95	6493	8876.4	5737	8087.6
1995-96	7001	10160.3	5760	8494.5
1996-97	7394	11600.9	5793	9035.9
1997-98	7966	12771.5	5796	9287.9
1998-99	8826	14712.4	5664	9733.1
1999-2000	9720	15562.0	5978	10067.0
2000-2001(Q)	10198	16487.0	6157	10245.0

**A critical objective of the country's planning process is the lessening of inequities. This gap must therefore be minimised. As India embarks on a path of higher growth, it is imperative that Assam and its people be enabled to share in the prosperity, and improve their standard of living.**

### Per Capita Income (at 1993-94 prices)



<sup>10</sup> Source: Directorate of Economics and Statistics, Assam and the Central Statistical Organisation (CSO); figures for 2000-01 represent Quick Estimates

#### A4. NSDP, workforce and labour productivity

The annual growth rate of NSDP was higher than that of the workforce during the period 1970-71 to 1990-91, reflective of an overall although modest growth in productivity per worker.

The data however also shows that there was an actual decline in worker productivity in the primary and secondary sectors, a reduction compensated by the relatively higher productivity increases in the tertiary sector.

#### Growth of Workforce and NSDP at Constant (1980-81) Prices<sup>11</sup>

Year		Primary Sector	Secondary Sector	Tertiary Sector	All Sectors
1970-71	Number of workers	3,149,881	208,612	730,000	4,088,493
	NSDP (Rs. in lakhs)	96,199	24,568	55,198	175,965
1990-91	Number of workers	5,173,662	388,723	1,429,671	6,992,056
	NSDP (Rs. in lakhs)	125,114	60,650	161,672	347,436
Annual % growth rate (1970 –71 to 1990-91)		2.65	3.33	3.60	2.86
Annual % growth rate (1970-71 to 1990-91)		1.39	2.39	5.47	3.57
NSDP per worker, 1970-71(in Rs)		3,054	11,777	7,561	4,304
NSDP per worker, 1990-91(in Rs)		2,418	9,898	10,629	4,899
Annual % growth in labour productivity <sup>12</sup> (1970-71 to 1990-91)		- 1.23	- 0.91	1.81	0.68

- Among the three sectors, the primary sector was the least productive, in both the years 1970-71 and 1990-91. Over this twenty year period, it recorded a negative average annual growth of NSDP per worker, a decline of 1.23 percent.
- The secondary sector, which had the highest NSDP per worker in 1970-71, also showed a decline in NSDP per worker and registered a negative annual growth of 0.91 per cent.
- The performance of the tertiary sector, with an increase in productivity of 1.81 percent and a growth rate of 5.47 percent per annum accounts for the marginal increase in NSDP of 0.68 percent over the period.

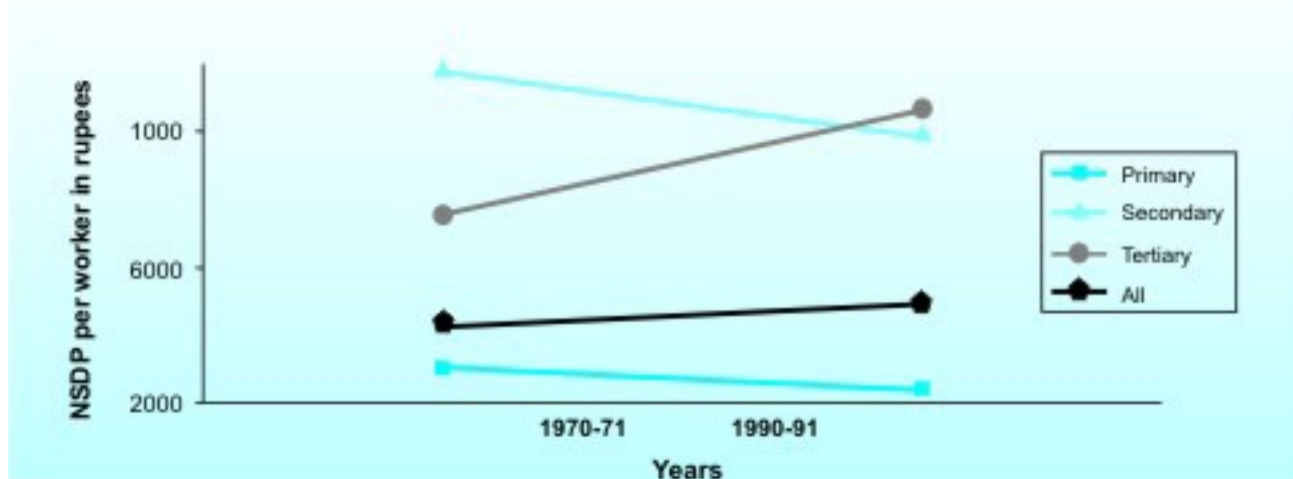


<sup>11</sup> Source: Directorate of Economics and Statistics, Assam

<sup>12</sup> Calculated by dividing NSDP by the number of workers, assuming that Capital has been kept constant



NSDP Per Worker, Assam, 1971-1991



#### A5. Sectoral composition and growth of District Domestic Product (DDP)

An analysis of the sectoral composition of NSDP reveals that the contribution of the primary sector has declined from about 47.5 percent in 1980-81 to around 40 percent in recent years. It however continues to be the largest contributing sector.<sup>13</sup> The tertiary sector has shown relatively high rates of growth in this period, while the secondary sector has exhibited moderate growth. In 1999-2000 the relative shares of the sectors (at 1993-94 prices) were:

- The share of the primary sector in NSDP was 42.82 percent
- The secondary sector accounts for 18.00 percent of the NSDP
- The tertiary sector accounts for 39.18 percent of the NSDP.

For the country as a whole, the primary sector accounts for 27.87 percent, the secondary sector for 25.98 percent and the tertiary sector for 45.15 percent (1999-2000).

An analysis of the sectoral contribution to Gross DDP by districts in 1994-95, shows the overwhelmingly high dependence on the primary sector. In all districts, with the exception of Kamrup district, the primary sector contributes more than one third of the total Gross DDP. In Kamrup district, the primary sector accounts for only 13.89 percent of DDP.

- In Kokrajhar, Morigaon, Sibsagar, Lakhimpur and Dhemaji, the contribution of the primary sector is more than 50 percent.
- The contribution of the secondary sector ranges from 8.70 percent to 19.87 percent in different districts. The highest contribution of the secondary sector (19.87 percent) is in Kamrup district and the lowest (8.75 percent) is in Lakhimpur district.
- The contribution of the tertiary sector varies between 31 percent and 50 percent, except in Kamrup district, where its contribution is as high as 66.24 percent

<sup>13</sup> Information from the Directorate of Economics and Statistics, Assam and Economic Survey of Assam

**Sectoral Contribution (%) to Gross DDP, 1994-95, at 1980-81 prices**

District	Primary Sector	Secondary Sector prices	Tertiary Sector
Dhubri	43.02	14.89	42.09
Kokrajhar	54.28	10.72	35.00
Bongaigaon	38.80	13.49	47.71
Goalpara	37.37	16.97	45.66
Barpeta	48.67	13.40	37.93
Nalbari	36.53	18.43	45.04
Kamrup	13.89	19.87	66.24
Darrang	48.30	12.43	39.27
Sonitpur	46.38	10.80	42.82
Lakhimpur	55.56	8.70	35.74
Dhemaji	59.72	8.79	31.49
Morigaon	53.95	10.85	35.20
Nagaon	40.95	14.45	44.60
Golaghat	49.01	12.26	38.73
Jorhat	30.60	15.90	53.50
Sibsagar	58.60	8.86	32.54
Dibrugarh	36.56	14.44	49.00
Tinsukia	47.27	12.99	39.74
Karbi Anglong	42.36	13.99	43.65
N C Hills	40.34	11.60	48.06
Karimganj	32.93	18.82	48.25
Hailakandi	41.98	13.55	44.47
Cachar	36.20	14.58	49.22
<b>ASSAM</b>	<b>40.34</b>	<b>14.20</b>	<b>45.46</b>

The slow development of Assam is partly explained by the continued high dependence on the primary sector (with a share of more than 30 percent of Gross DDP in 22 out of 23 districts). It is a sector where the growth has been less than 2 percent. The secondary sector accounted for about 14 percent of gross DDP and the tertiary sector for a little over 45 percent of gross DDP in 1994-95.<sup>14</sup>

#### A6. Regional Income – growth and disparities

The distribution of per capita income in 1994-95 shows a high degree of inter district inequity. This gap is of as much concern, if not more, than the Assam – India gap. An analysis of the district wise data shows some disconcerting facts.

<sup>14</sup> Source: Economic Survey, Assam. In subsequent years the share of the tertiary sector declined

**Per Capita DDP 1994-95**  
(in Rupees, at constant, 1980-81 prices)<sup>15</sup>  
Ranked in descending order

Rank	District	Per Capita DDP (Net): 1994-95
1	NC Hills	3464
2	Jorhat	2192
3	Kamrup	2157
4	Sibsagar	2008
5	Tinsukia	1908
6	Dibrugarh	1684
7	Cachar	1644
8	Kokrajhar	1563
9	Barpeta	1551
10	Lakhimpur	1538
11	Golaghat	1520
12	Sonitpur	1444
13	Karimganj	1436
14	Dhubri	1435
15	Karbi Anglong	1426
16	Nalbari	1423
17	Goalpara	1411
18	Bongaigaon	1392
19	Hailakandi	1343
20	Nagaon	1327
21	Dhemaji	1279
22	Morigaon	1225
23	Darrang	1100
	<b>ASSAM</b>	<b>1585</b>

**Within the State there is considerable inequality. The per capita income in the district with the highest income is more than three times that of the district with the lowest per capita income; and more than twice the State average.**

The estimates of per capita net District Domestic Product (DDP) at constant prices (1980-81) show that the North Cachar Hills district occupies the highest position in 1994-95 with per capita income of Rs. 3464 respectively, while Darrang district has the lowest per capita DDP, only Rs. 1100.

The inequity is also apparent in the respective contribution of the different districts to the State Domestic Product. **The first seven districts of the State (in terms of DDP) account for nearly half of the State Domestic Product. The last seven districts (in terms of DDP) account for only a seventh of the State Domestic Product.**

<sup>15</sup> Source: Directorate of Economics and Statistics, Assam

**District-wise Percentage Contribution by Different Sectors to  
SGDP of the Sector, at Current Prices (1994-95)**  
(In descending order of contribution to SGDP)

District	Primary Sector	Secondary Sector	Tertiary Sector	State Domestic Product (SGDP)
1. Kamrup	4.32	17.91	18.38	11.46
2. Nagaon	7.27	7.65	7.52	7.42
3. Tinsukia	8.04	4.73	4.60	6.30
4. Barpeta	6.75	5.69	4.88	5.93
5. Sibsagar	8.30	3.18	3.85	5.91
6. Sonitpur	6.18	4.20	5.52	5.62
7. Dibrugarh	5.53	5.17	5.61	5.50
8. Cachar	4.73	5.65	5.96	5.31
9. Dhubri	5.31	5.57	4.65	5.12
10. Darrang	4.59	3.51	3.49	4.03
11. Nalbari	3.48	5.56	3.92	3.98
12. Jorhat	3.06	4.63	4.91	3.97
13. Lakhimpur	4.61	2.01	2.78	3.55
14. Golaghat	4.02	2.98	3.08	3.52
15. Kokrajhar	4.38	2.61	2.67	3.49
16. Karimganj	2.75	4.89	3.65	3.42
17. Bongaigaon	2.93	2.99	3.35	3.08
18. Goalpara	2.32	3.26	2.61	2.58
19. Karbi Anglong	2.81	2.43	2.30	2.57
20. Morigaon	2.77	1.57	1.74	2.21
21. Dhemaji	2.67	1.12	1.31	1.94
22. Hailakandi	1.70	1.59	1.78	1.71
23. NC Hills	1.46	1.09	1.43	1.39
<b>ASSAM</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>

Kamrup district contributes the highest proportion to the State Domestic Product (11.46 percent), while the contribution by NC Hills district<sup>16</sup> is the least (1.39 percent), reflective of the vast gap in their levels of economic development.

The contribution of different districts to State GDP for the year 1994-95 (at current prices) in the primary sector range from 8.04 percent in Tinsukia district to 1.46 percent in North Cachar Hills district. In the secondary sector, the highest contribution of 17.91 percent comes from Kamrup district while the North Cachar Hills district has the least contribution of 1.09 percent in this sector as well. In the tertiary sector, the North Cachar Hills district contributes only 1.43 percent to the total domestic product of the sector. The contribution of other districts like Hailakandi, Morigaon and Dhemaji was also low. Kamrup dominates in this sector and contributes an impressive 18.38 percent.

<sup>16</sup> While NC Hills ranks first in the per capita income rankings, its contribution to the State Domestic Product is the lowest. This apparent incongruity is explained by the low population in this district, only 150,801 people in 1991, and a population density of 31 per sq km, compared to the State average of 286 persons per km.

**The substantial and growing gap between the per capita income of Assam and India, belies the theory that when a country grows, its constituents grow as well. India's growth in the last two decades has been much faster than the growth in Assam. For the same reason inter-district inequities need to be addressed through the planning process, through prioritisation of State initiatives, and a differentiated approach towards development. The constituent elements of income need to be analysed to determine paths towards overall development that will build upon the strengths of the State, and yet address issues of equity, balanced growth and employment.**

## **1B. Agriculture**

Agriculture plays a very important role in the economy of the State. This is because of the large work participation in this sector and its major contribution to the NSDP. The principal occupation of the rural people, who constitute close to 90 percent of the total population is agriculture and allied activities. The share of the workforce under agriculture to the total workforce is 69 percent. Agriculture accounts for more than a third of the State Domestic Product. Its share in NSDP was 34.79 percent at constant prices in 2000-2001<sup>17</sup>. The Government has accorded high priority to agricultural programmes in successive Five Year Plans, and the performance of the agriculture sector in Assam, has shown an improvement in the last decade. Despite this, there are areas of concern that need to be reviewed and addressed.

### **B1. Size of holdings**

A little over a third (35.3 percent) of the total geographical area of the State is utilised for agriculture. The net area sown is 27.69 lakh hectares with a cropping intensity of 144 percent<sup>18</sup>. The land man ratio (effective land) is low, at only 0.14 hectares<sup>19</sup>. Most farmers work on small and marginal farms, and the average size of holdings has been falling. The small size of farms, traditional farming methods combined with low levels of mechanisation are significant factors accounting for the relatively low productivity.

- The number of holdings as well as the operated area has been increasing since 1970-71, but the average size of holding has been falling. Indicative of increased fragmentation, the average size of holding declined from 1.47 hectares in 1970-71, to 1.27 hectares in 1990-91.
- Marginal holdings, of less than a hectare, constitute 60.3 percent of the total holdings. They cover only 19 percent of the total area operated. Small and marginal holdings account for 82 percent of holdings and 43 percent of the operated area. Large holdings, of 20 hectares and above, account for only 0.09 percent of the total holdings, but 11.37 percent of the operated area.

### **B2. Main crops and agricultural productivity**

Rice continues to be the most important cultivated crop, although Assam accounts for a fair share of the country's production of rice, rapeseed and mustard, jute and mesta, tea and potato, sweet potato, banana, papaya, areca nut and turmeric.

<sup>17</sup> Economic Survey of Assam, 2002

<sup>18</sup> This is low by the standards of many other States, but still represents a doubling of the cropping intensity over that of the mid-1970s

<sup>19</sup> Source: Economic Survey, Assam. There were 25.23 lakh operational holdings in the State, covering an operated area of 32.05 lakh hectares.

**While the total production of food grains and other crops has recorded increases in the last fifty years, the per capita food grain production has shown a decline.** In 1997-98, the per capita food grain production in Assam was 159.60 kgs as against 178.15 kgs in 1951-52. **This has implications for food security, in particular for vulnerable and disadvantaged sections. The overall figures for production, indicated in the table below, no doubt reflect the efforts made by the State Government; the challenge is to ensure that the benefits of these increases are adequately and equitably shared amongst all sections of the population.**

Despite the fact that yield rates of the principal crops in Assam have been increasing since Independence, these are still below the average yield rates of the country and significantly below the yield rates of high performing States.

The only crop for which productivity is higher than the all India average is tea, and this should (the recent successes of small tea growers notwithstanding) be treated essentially as a plantation crop. The yield of rice, which is the staple food of the people of Assam, was 1531 kgs per hectare as against the all India figure of 1927 kgs per hectare, in 2000-2001. In the case of other crops too, the respective yield rates are less than national yield rates. Even though the yield rates are lower than the all India average, the yield of all crops has increased substantially since the 1980's. Prior to that, productivity increases were relatively modest<sup>20</sup>.

### Index of Agricultural Production in Assam and India<sup>21</sup>

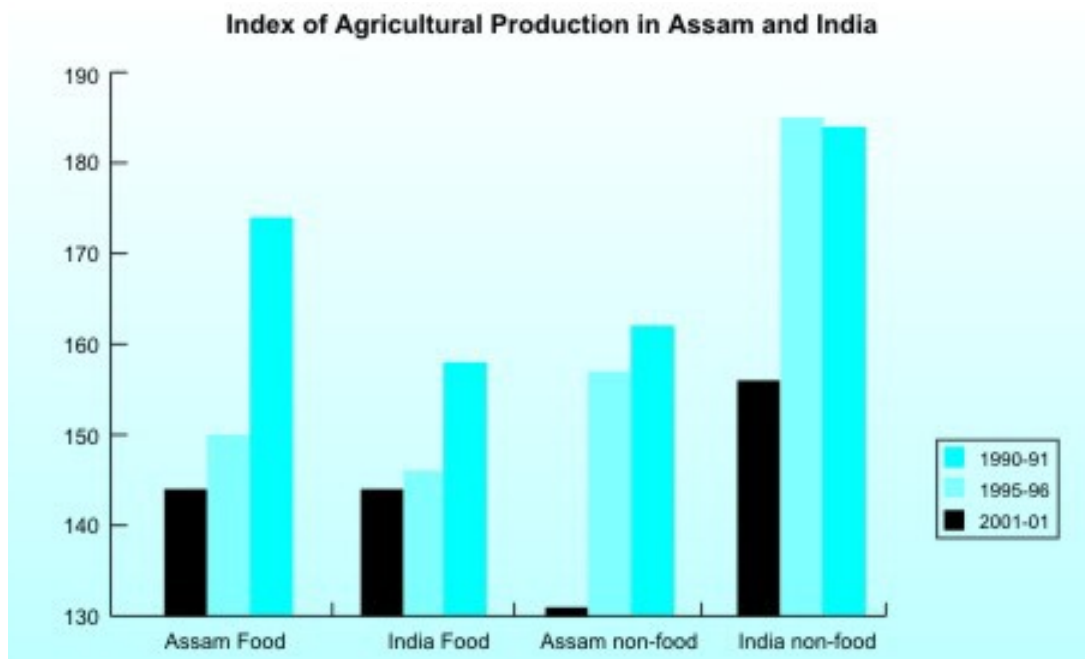
(Base: Triennium ending 1981-82=100)

YEAR	ASSAM			INDIA		
	Food	Non-Food	All commodities	Food	Non-Food	All commodities
1990-91	144	131	138	144	156	148
1991-92	142	143	142	138	157	146
1992-93	144	142	143	144	164	152
1993-94	148	149	148	150	170	157
1994-95	146	154	150	156	181	165
1995-96	150	157	153	146	185	161
1996-97	148	157	153	161	201	170
1997-98	149	162	156	156	183	165
1998-99	143	170	157	165	200	178
1999-2000	168	163	166	169	190	177
2000-2001(P)	174	162	168	158	184	168

<sup>20</sup> Source: Directorate of Economics and Statistics, Assam

<sup>21</sup> Source: Directorate of Economics and Statistics, Assam





The agricultural production indices for Assam show that the production of both food and non-food crops increased significantly during the 1990s. The index for all commodities increased from 138 in 1990-91 to 168 in 2000-2001(provisional) and matched the all India index<sup>22</sup>.

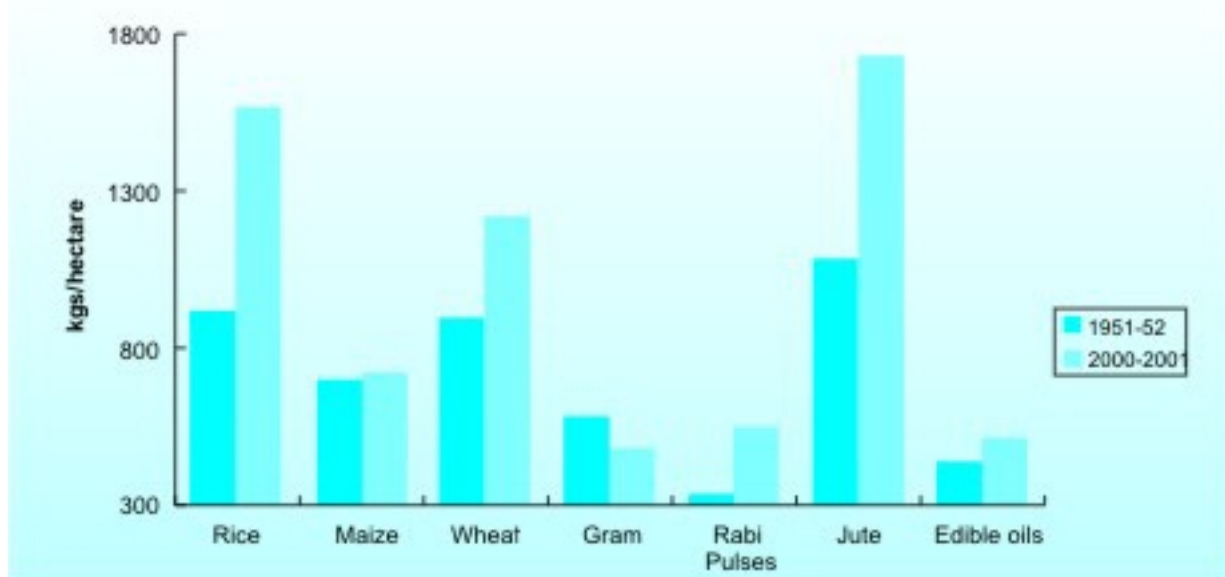
**Productivity Increases: Selected Crops (Assam)**  
(in kgs/ hectare)

CROPS	1951-52	1960-61	1970-71	1980-81	1990-91	2000-2001
Rice	919	968	1022	1120	1313	1568
Maize	700	524	547	594	629	722
Wheat	896	824	583	1158	1248	1219
Gram	583	536	544	475	476	482
Rabi Pulses	335	340	350	395	408	550
Jute	1084	1229	1305	1463	1632	1730
Rapeseed & Mustard	438	381	410	485	535	515



<sup>22</sup> Source: Directorate of Economics and Statistics, Assam

Assam: Increasing Crop Productivity



### B3. Reasons for low productivity

A number of factors constrain the attainment of higher productivities in the agricultural sector. Agricultural productivity in Assam is lower than the all India average. **The shift from community farming, largely subsistence oriented systems to modern, technologically advanced and market oriented agriculture has taken place slowly, and is uneven in its spread.** Modern agriculture, marked by improved agricultural practices, multiple cropping and high yields, is just beginning to take off in Assam. Issues of tenurial systems and fragmentation of landholdings need to be addressed, as do the development of markets, rural infrastructure and assured irrigation<sup>23</sup>.

Technologically, there is a need to link research with the field, to bring to the farmer information on improved management practices. The effective non-availability of credit, especially to marginal farmers is another important factor. Most importantly, the uncertainties and vagaries of nature continue to beset agriculture; the regular occurrence of flood and natural calamities has been an extremely important factor. Conditions of high humidity, especially in the monsoon season, result in a range of pests and crop diseases, and there is water-logging to contend with.

About half the farmers of Assam cultivate and harvest their fields only once a year. The use of pesticides and fertilisers is still limited. In the case of paddy, the fertiliser used in Assam is less than a tenth of the average

#### Agricultural Machinery and Farm Prosperity

The ownership of agricultural machinery and its use reflects the economic prosperity of farmers and the modernisation of agriculture. In the period from 1971-72 to 1991-92, most states in India saw a steady rise in the number of pumps, tractors and power-tillers. In Assam, the number of tractors in 1991-92, per 100 hectares of operated area, was negligible. The usage of power tillers increased from insignificant numbers in 1981-82 to 23 per 100 hectares of operated area in 1991-92. In Haryana, in the same year, there were 387 tractors and 317 power tillers per 100 hectares of operated area. In contrast, the number of working bovines used in Assam (per 100 hectares of operated area) was 147, while the corresponding figure for Haryana was 22.

<sup>23</sup> Only 39 percent of the total area is irrigated against the national average of about 80 percent

**Field Management Committees: Making Things Work**

Field Management Committees (FMCs) or Pothar Porichalana Samitees have been revitalised in the last decade. They are participative groupings of farmers supported by the extension technology and marketing network of the State Agriculture Department have showed extremely positive and encouraging results. There are now about 25,000 FMCs in Assam at the village level, with co-ordination bodies at block, district and State level.

A Field Management Committee is an organization of a group of farmers, actively engaged in one or more land based activities, carried out on a contiguous plot of land. An FMC usually consists of 70-80 farmers and the average size of its operation is 500 bighas. The FMCs rely on collective and coordinated action and channelise scarce resources to elicit maximum returns. They are recognised and registered by the District Agricultural Officer. The FMCs have been instrumental in the successful installation of the large number of Shallow Tube Wells (STWs) in the State.

fertiliser use in Punjab, and a fifth of the national average<sup>24</sup>. The use of agricultural machinery in Assam is less than one fifteenth that of agriculturally advanced States like Haryana.

The State Government has undertaken a number of schemes for augmentation of the agriculture sector, especially in the agri-horticulture sector. The Assam Agricultural University, Jorhat has developed plans for alternative cropping patterns for different soil conditions and has also developed short duration varieties of crops, with pest and disease resistance capabilities.

There is a need to involve voluntary organisations and the community to revitalise and impart dynamism to the sector. The revival of Field Management Committees (FMCs) and their training and capacity building is an important step, which is already showing good results.

**B4. Livestock and fisheries**

In the essentially agrarian economy of Assam, livestock is an essential and important contributor to the NSDP. Dairy and poultry farming can augment incomes and increase purchasing power. Assam has a substantial livestock population (134 lakhs in 1997), but the average size of cattle in Assam is small and not of good quality<sup>25</sup>.

The poor productivity of cattle in Assam is partly due to the poor breeds (mostly indigenous) and to the shrinking of grazing grounds. The Dairy Development Department has undertaken steps to augment milk production. Special programmes have been initiated under the Char Development Scheme. The Integrated Dairy Development Project is another important initiative, and covers ten districts of the State.

**Reducing Access to Common Property Resources (CPR)**

Despite the pressures of population, of monetisation of the rural economy and of the erosion of community led control, common property resources still play an important role in the economic life of the people, particularly in the rural areas. These comprise of pastures and grazing land, village and un-classed government forest, waste land, watershed drainage, ponds and tank and streams. Villagers collect fuel-wood, fruits, roots, tubers, gums and resins, honey, fish, weeds, grass, bamboo, manure from CPR. Besides the collection for domestic consumption, some materials are collected for sale and use in cottage industries.

With a reduction in the CPR, or due to reduced access, many people find themselves worse off economically. NSS data on Common Property Resources in India, 54<sup>th</sup> Round (1998) shows that nearly 44 per cent of households report some collection of fuel wood from CPR, another 21 per cent report collection of fish. Fruit, roots tubers, honey, and medicinal herbs were collected by about 10 per cent of the households. Leaves, weeds, grass and bamboo was also collected by close to 15 per cent of the households.

As the economy adapts to changed circumstances and structures, it is important that access to common property resources, which are extremely important in the lives of the people, are protected and respected.

<sup>24</sup> Source: Assam Development Report; Calculated from Fertiliser Statistics, various issues, fertiliser consumption refers to N+P +K consumption to gross cropped area for paddy

<sup>25</sup> According to a study by the National Council for Agriculture and Economic Research (NCAER)

Fisheries are a vital part of the rural economy. The demand for fish is high, with over 90 percent of the population being fish consumers. The demand is estimated to be about 280 metric tonnes, based on a nutritional requirement of 11 kgs of fish per person, per annum. On average, about 20 metric tonnes of fish are brought into Assam every day, (largely from Andhra Pradesh) which means an outflow of about Rs 60 crores annually.<sup>26</sup>

#### **SKY Shallow Tube Wells Help Green Assam**

The Samriddha Krishak Yojana (SKY) is one of the most successful initiatives undertaken by the Department of Agriculture in Assam. During the Ninth Plan, almost 10,000 shallow tube wells were installed using 5 HP pump sets. The objective is to irrigate additional areas and improve yields. Nearly 65,000 hectares of land belonging to FMC's has been irrigated by these tube wells, making possible increases in cropping intensity and productivity.

The State has about 1.5 million hectares of inland water bodies and a number of rivers and streams. Fishing provides employment to thousands of people in the State. Bheel fisheries are being restored and developed. Fish rearing areas are being expanded and fish seed production is being stepped up. The State has achieved self-sufficiency in fish seed farming through the involvement of the private sector.

**There are undoubtedly changes that are taking place in the agriculture sector, and in the range of allied activities. The pace of change needs to be enhanced to produce the surpluses that will steer the State's economy on to a higher growth path. The sector should be developed sustainably and equitably, so that the fruits of its enlargement are shared by all.**

## **1C. Industry**

Long famed for its silk production, and for the quality of textile and cottage industry products, Assam is today seeking to find a place on the industrial map of India. The tea industry in India had its beginnings in Assam, and by the mid-19<sup>th</sup> century, had firmly established itself. For a century and a half it has brought export earnings to the country and prosperity to its owners. Crude oil was struck in Assam; Asia's first petroleum refinery was set up at Digboi in 1901. High quality coal and many other minerals have been extracted over a long period of time.

Assam is still however amongst the industrially under-developed States. The partition of India meant a major reorganisation of Assam's economy. The train routes and waterways that linked Assam to Calcutta passed through East Pakistan (now Bangladesh) and quickly became non-functional. This had serious implications for industry in Assam. The high transportation cost meant that raw materials and inputs from the rest of India cost more and transporting finished goods also has an extra transportation cost element. This access disadvantage has meant that capital has been shy of coming to Assam, except in areas where there is a very obvious comparative, or, more recently, a fiscal advantage.

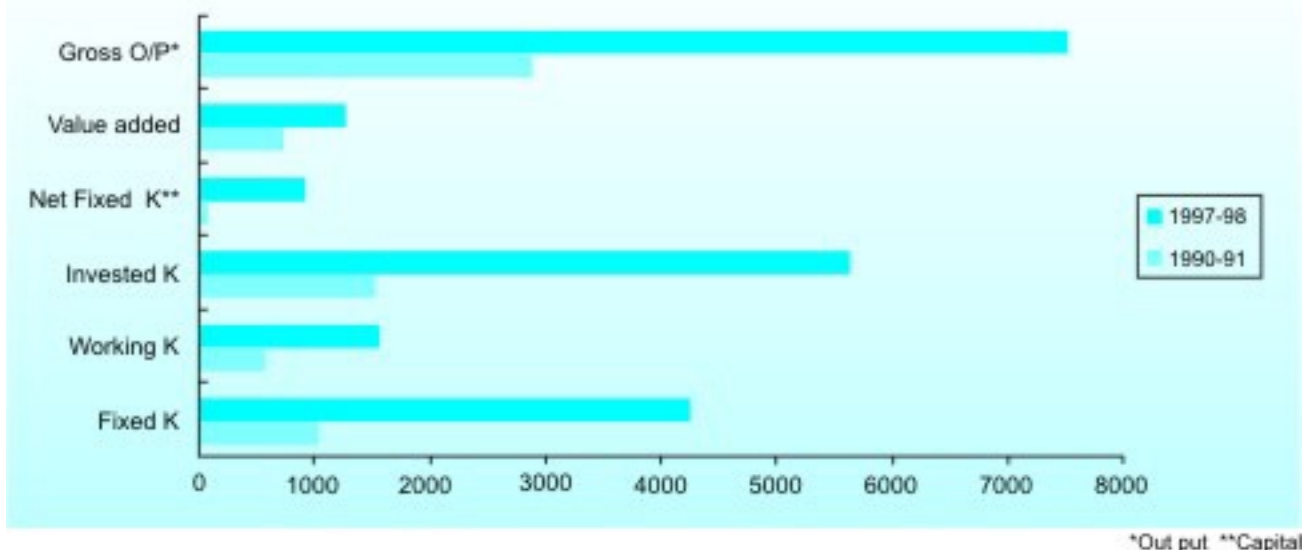
There are a few modern industries but they operate in an enclave type economy, with few backward or forward linkages<sup>27</sup>. Surpluses generated by the industries have not been invested in the State, especially in the last two decades, marked as they were by periods of strife. Infrastructural problems as well as the shortage of capital have also meant slow growth in this sector. The growth rate in the secondary sector was around 3-4 percent in the 1981-82 to 2000 period. Its share in GSDP has varied between 10 to 15 percent. The secondary sector including manufacturing, construction, electricity, gas and water accounted for 15.17 percent of the NSDP, in 2000- 2001 (at constant 1993-94 prices)

<sup>26</sup> Economic Survey of Assam, 2002

<sup>27</sup> Source: Assam Development Report, 2002.

The Annual Survey of Industries shows that in the period from 1990-91 to 1997-1998, fixed capital has increased from Rs. 1032 crores to Rs. 4,239 crores, working capital increased from Rs 569 crores to Rs.1,540 crores and invested capital increased from Rs 1,523 crores to Rs 5,629 crores. During the same period the value of gross output increased from Rs. 2,887 crores to Rs. 7,400 crores, net fixed capital formation increased from Rs. 77 crores to Rs. 927 crores and net value added increased from Rs 733 crores to Rs 1,421 crores. According to the provisional figures for 1999-2000, fixed capital declined substantially, as did invested capital. Employment also fell, but net value added increased by more than 75 percent. This implies that some inefficient or non-functioning units closed down, and there was some restructuring and rationalisation in the industrial sector.

**Growth of Investment and Output, Assam 1990-91 to 1997-98**



**C1. Tea**

Assam accounts for about half the tea production of the country. The area under tea cultivation in the State was 2.32 lakh hectares in 1999. The 568 tea factories in Assam employ 5.7 lakh workers including plantation labour, of which nearly half of are women.



### Tea Industry in Assam and India<sup>28</sup>

	Assam			India		
	1993	1995	1996	1993	1995	1996
Number of tea estates	850	1196	2472	13936	37319	38705
Area under tea (in '000 hectare)	232	226	22820	418	427	43124
Production (million kg.)	403	403	424	761	756	780
Average yield (kg per hectare)	1770	1779	1858	1819	1770	1809
Work-force (in lakhs)	5.74	5.75	5.91	8.51	8.97	11.41

Despite the fact that the tea industry in Assam is the most productive in the country, the sector has faced many problems in the last few years. Declining international prices, contracting markets and increased competition from other countries on the one hand, and lack of investment, deferred replanting and inadequate maintenance on the other, have contributed to its problems. The rise of small tea gardens, a phenomenon less than a decade old, and the consequent entry into the sector of educated, unemployed youth, as well as the fact of its potential for incremental employment and income provides an optimistic note for the future.

#### C2. Oil

Assam currently produces about 5 million tonnes of crude oil, (worth nearly Rs 3,000 crores). It is processed at the four refineries in the State, located at Digboi, Guwahati, Bongaigaon and Numaligarh. Natural gas is produced in Assam and sold to power plants and tea gardens. About 2,000 tonnes of natural gas, valued at Rs 363 crores is currently utilised.

#### C3. Silk

Assam accounts for 99 per cent of the *muga* silk production in the world. More than 5 lakh families work at *eri* silk, while about 20,000 families work in the *muga* silk industry and about 25,000 families are engaged in mulberry silk production.

##### Muga - The Golden Silk

The name muga silk comes from the Assamese word 'muga', which means amber brown- and refers to the colour of the cocoon. The muga silkworm feeds on the leaves of som and soalu plants which grow abundantly in the Brahmaputra valley. The caterpillars that spin this golden silk are truly rare and unlike the mulberry silk that is bleached and dyed, muga silk appears like spun gold.

A number of initiatives have been taken to expand and develop the silk industry in the State. These include systematic plantation of silkworm food plants, establishment of reeling/spinning plants, and training to rearers. The impressive gains in productivity in recent years, and in developing value added products for new markets, lends credence to the view that the sericulture and handlooms sector can be enabled to regain its pre-eminence in Assam.

In the medium scale sector, industrial units producing cement, fertiliser, jute, sugar, cotton, polyester and synthetic yarn and other products complement traditionally established industries and activities. On the anvil are petro-chemical units, and a range of industries producing consumer goods – for the North East, and for markets in the rest of the country. The sharp reduction in timber related activity, and the closure of most plywood units has impacted adversely on employment and income. In fact, the number of registered factories in Assam decreased from 2,674 in 1991 to 2,406 in 2000.

<sup>28</sup> Source: Tea Board of India



#### C4. Small Scale Sector

The number of small-scale units registered has been increasing steadily. Assam accounts for 68.9 percent of all the small scale units registered in the north-east. There were 12 industrial estates spread throughout the State in 1997-98. Over 200 industrial sheds housing numerous small scale industries are operational in the State. There are six Growth Centres for promotion of SSI and tiny units (1997-98). Kamrup district has the highest number of factories (493) employing nearly 12,000 workers (in 2000) while Dhemaji has the least, with only 3 factories, and 69 workers.

Two new Growth Centres have been sanctioned, at Balipara in Sonitpur district and in Matia in Goalpara district. The thrust areas identified for these growth centres are tea processing machinery, chemical, plastic and rubber, engineering and handloom and handicraft, fruit and food processing, electronic, ceramic, paper, fabricants, drugs and pharmaceuticals, cold storage plants and other small scale industries.

#### C5. A new frame-work for industry

In the building of a modern, resurgent Assam, the secondary sector has a pivotal role. Governmental policies reflect the importance of the sector, and focus on the utilisation of locally available resources, the promotion of domestic and foreign investment and the development of local entrepreneurial skill. Key focus sectors have been identified, including food processing, handlooms and textiles, and the rural non-farm sector. The intention is to build a broad industrial base with appropriate backward and forward linkages.

**Even as the State moves along the path to industrial development, it is important that the essentiality of adequate growth of employment, and of the need to ensure that due attention is paid to the development of relatively less developed regions of the State are kept in mind, and the inequitable distribution of industry and consequent opportunities for employment and income, are factored in.**

Pivotal as well, is the expansion of infrastructure, to the level, reliability and quality that is necessary to support industrial development, in particular in the power, communications and transport sectors.

## 2A. Employment

Income and employment are intrinsically related. Employment refers to the use of human resources in the production process and the wages paid to the factor (labour) is income. Low rates of growth of income in Assam imply that resources are not fully utilized. They are either unemployed or underemployed or have extremely low productivity. Besides the economic dimension of unemployment, there is a social dimension to unemployment as well. Joblessness leads to low esteem and self-worth, and may have a seriously damaging social and psychological impact, in addition to the obvious economic aspect. Disillusioned young people may resort to crime and are fertile recruiting grounds for underground and militant movements.

Due to the absence of a universally accepted definition of economic activity, statistical quantification of the various aspects of employment-unemployment is difficult. While attempting an assessment of the employment situation, the sectoral composition of workers, work participation by children and elderly persons, growth of workers and NSDP are examined and then the various dimensions of unemployment are highlighted.

The data on employment is not entirely adequate or reliable, in part because of the nature of the labour market<sup>29</sup>. Of the total employment in the country, nearly 90 percent is in the unorganised sector or the informal sector, for which data is only available through periodic surveys. Employment data, from various NSS rounds and the Census, provides some indication of the unemployment situation but due to definitional and conceptual problems, the data may not be strictly comparable<sup>30</sup>.

- The percentage of workers to the total population of the State was 35.87 percent in 2001, as against 28 percent in 1971<sup>31</sup>. About 20.79 percent of women are engaged in work according to the 2001 Census figures.
- In rural areas, the percentage of women workers to total women population, increased substantially in the 1971-2001 period. In 1971, about 5 per cent of women were engaged in work; in 1991 this figure increased to 22 percent, and in 2001 it continues to be as high as 22.27 percent. The percentage of urban working women is much lower, at 10.29 percent.

### A1. Annual growth of workers and population

The growth of workers in Assam during the 1971 to 1991 period, has been higher than the rate of growth of population. In rural areas, the growth of workers was higher than population growth, 3.47 percent against 2.03 percent, per annum. In urban areas, the growth of workers and population was more or less similar, 3.43 percent and 3.34 percent, per annum.

In the 1993-94 to 1999-2000 period the annual growth in employment in Assam was 2.5 percent for males, 2.3 percent for females and 2.5 percent for all persons. The figures for India in the same period were 1.9 percent, 0.9 percent and 1.6 percent. This was substantially better than the growth in employment during the 1983 to 93-94 period, which was 1.6 percent for all persons<sup>32</sup>.

### A2. Workforce Participation Rate

The workforce participation rate shows the number of persons employed per 1,000 persons. The workforce participation rate for Assam is lower than that for India. The rate is much lower in rural Assam compared to that for rural India, while in urban areas of Assam the rate is almost equal to the urban India average.

- About half the male population is engaged in work as per 2001 Census, in Assam. In the case of women, the rate is much lower, about a fifth are engaged in work. The workforce participation rates for both men and women are lower than the rates for India.
- In rural areas, the workforce participation rate for Assam is substantially lower than the all India rate, for both men and women. The figures for urban Assam are almost equal to that for urban India; just a bit higher for urban males and slightly lower for urban females.
- The participation of women in the workforce in Assam is lower than the all India rate. This is true of both rural and urban areas, although the gap is much more significant in rural areas. Less than a fourth of the women in rural areas are engaged in work and in urban areas, less than a tenth are in the workforce.

<sup>29</sup> Source: National Human Development Report –2001, Planning Commission, New Delhi

<sup>30</sup> While the 2001 Census data has been referred to for much of the analysis that follows, data from the 1991 Census is also referred to, especially where data for 2001 was not available.

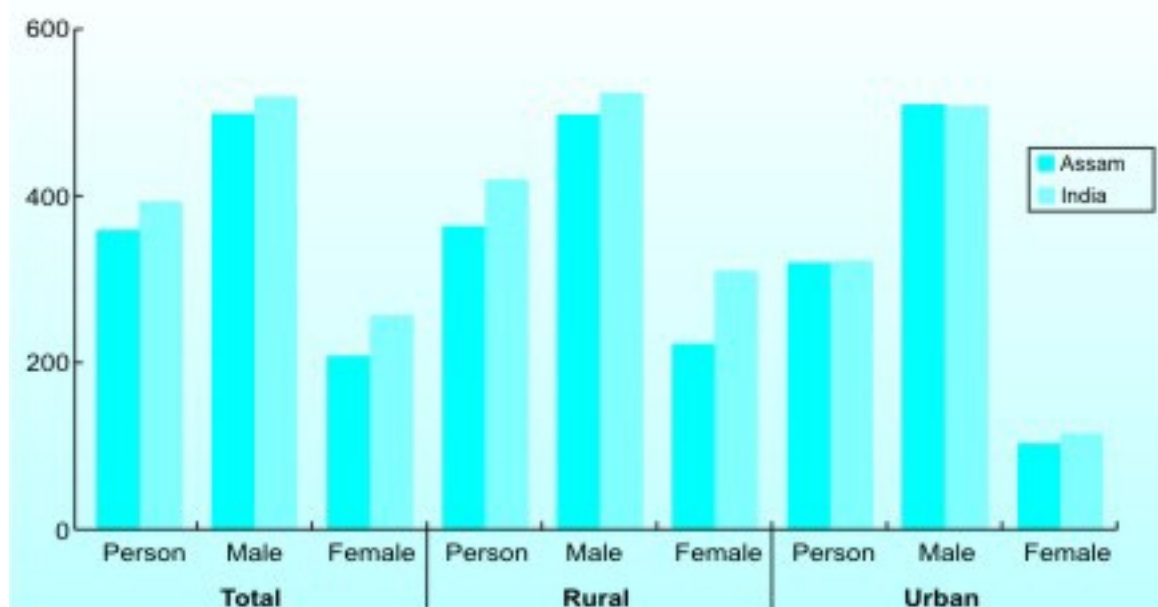
<sup>31</sup> Source: Directorate of Economics and Statistics, Assam.

<sup>32</sup> Source: National Human Development Report- 2001, Planning Commission, New Delhi

**Workforce Participation Rate, Assam<sup>33</sup> 2001**  
per 1,000 persons

	Total			Rural			Urban		
	Persons	Males	Females	Persons	Males	Females	Persons	Males	Females
Assam	359	499	208	364	498	223	320	510	103
India	393	519	257	420	524	310	322	508	115

**Workforce Participation Rate, Assam and India, 2001**



### A3. Workers and non-workers

A study of the percentage of non-workers shows that the percentage of non-workers to total population, is higher in Assam, than in India. The difference is more in rural areas as compared to urban areas. In urban areas, the percentage of non-workers in Assam and India is almost equal. For Assam as a whole, the percentage of non-workers among females is as high as 79.20 percent, compared to 74.32 percent for India. In urban areas, the percentage of female non-workers in Assam, is as 89.71 percent, marginally higher than the figure for India.

**Percentage of Non-Workers, Assam and India, 2001<sup>34</sup>**  
as a percentage of total population

	Total			Rural			Urban		
	Persons	Males	Females	Persons	Males	Females	Persons	Males	Females
Assam	64.12	50.07	79.20	63.55	50.23	77.72	68.02	48.97	89.71
India	60.74	48.07	74.32	58.03	47.64	69.02	67.77	49.15	88.45

<sup>33</sup> Source: Census of India, 2001, see Table 1-2 in Appendix for details.

<sup>34</sup> Source: Census of India, 2001

District wise data for 2001, shows that Lakhimpur district has the highest percentage of workers to total population (56.14 percent). Dhubri district has the lowest share of workers, (28.87 percent). Lakhimpur district also has the highest percentage of female workers, and Dhubri district the lowest.

- In all districts, the rate of workforce participation for men was higher than that for women.
- The percentage of women workers in Assam is substantially lower than the percentage of women workers in India. While female marginal workers were almost negligible in urban areas, in the rural areas, a sizeable proportion of women participate in work in a marginal capacity.

#### A4. Workforce Participation Rate for children and elderly persons

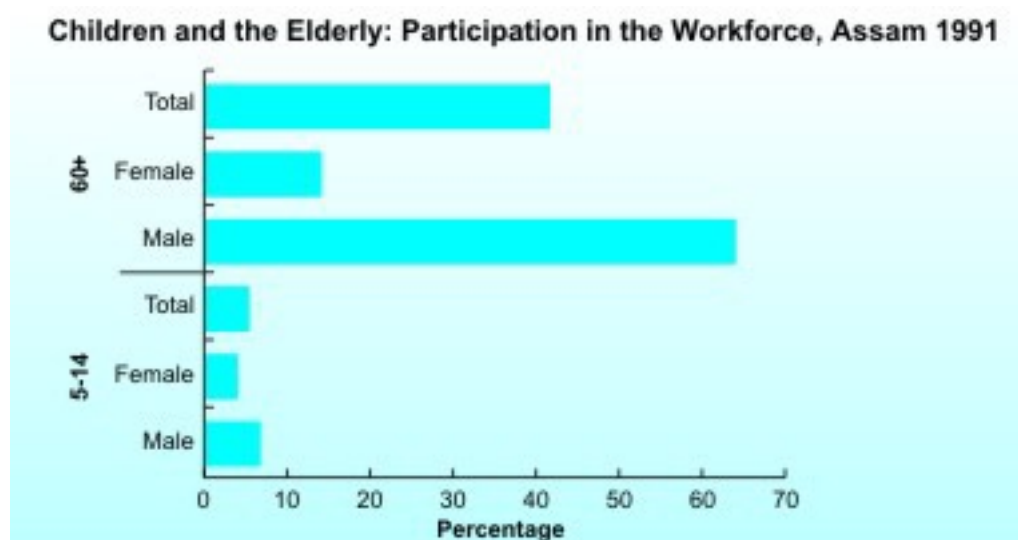
Persistent poverty compels children and old people to work. Census data (1991) indicates that there are a number of children at work in Assam, despite the Child Labour (Prohibition and Regulation) Act 1987, that prohibits the employment of children in particular occupations and processes<sup>35</sup>. It is likely that a number of children are employed in the informal and unorganised sectors, as domestic help, in tea stalls and motor garages. About 5.46 percent of children in Assam, work. More boys than girls work at making a living.

#### Percentage Distribution of Workers by Age and Gender

	5 – 14			60 +		
	Male	Female	Total	Male	Female	Total
1991 Census	6.80	4.07	5.46	64.05	14.20	41.71

A high proportion of those over 60 years continue to participate in the work force. This proportion is extremely high for males - two out of three men over 60 years of age work. This reflects on society's inability to 'allow' people, especially the poor, to retire. Low incomes and the absence of savings means that many people have to continue to work throughout their lives<sup>36</sup>.

#### A5. Sectoral composition of workers



<sup>35</sup> Article 24 of the Constitution of India prohibits employment of children below the age of fourteen years, in factories or mines or in any other hazardous employment.

<sup>36</sup> See Table I-4 in Appendix for district wise figures.

The primary sector continues to dominate the sectoral composition of workers, although the share has been declining over the years. The substantial increase has been in the tertiary sector.

- The percentage share of main workers in the primary sector declined from 77.04 percent in 1971 to 73.99 percent in 1991.
- The percentage of women workers in the primary sector actually increased from 81.07 percent in 1971 to 86.50 percent in 1991, reflecting that more women are now entering the workforce in the agriculture sector.
- The share of women workers in the secondary sector came down to 3.34 per cent in 1991 from 6.97 per cent in 1971. One reason for this could be the decline of cottage industries, in which women were earlier employed.
- The percentage share of workers in the tertiary sector has gone up from 17.8 per cent in 1971 to 20.45 per cent in 1991.

**Disaggregated data for the districts shows the dominance of the primary sector in most districts<sup>37</sup>.**

- 85.7 percent of the workers were engaged in the primary sector in Dhemaji district, followed by 85 percent in Karbi Anglong district. In Kamrup district, the percentage of workers in the primary sector was the lowest, at 45.6 percent.
- In the secondary sector, Kamrup district registered the highest percentage of workers (13 percent) while Dhemaji had the lowest (2.3 percent) workers.
- In the tertiary sector also, Kamrup recorded the highest proportion (41.4 percent) of workers. Karbi Anglong reported only 11 percent workers in the tertiary sector. The percentage share of women workers in the secondary sector in Sibsagar, Dibrugarh, Tinsukia, Karbi Anglong and Golaghat was only about one percent.

**An inordinately large proportion (close to three fourths) of the workforce is employed in the primary sector, a sector that has seen an extremely slow growth. There has been hardly any change in this figure in twenty years and there is likely to be a considerable degree of disguised unemployment and under-employment in the sector.**

## **2B. Unemployment**

Unemployment<sup>38</sup> continues to be a matter of serious concern and the problem has become more acute in Assam in recent years. The National Human Development Report, 2001, confirms that the incidence of unemployment in Assam is considerably higher than in the country and is particularly high for women.

In Assam, the number of unemployed people as a percentage of the labour force, has more than doubled during the 1983–2000 period. It has increased from 2.2 percent to 4.6 percent and is twice the figure for India. The unemployment percentage in urban areas was extremely high, 9.8 percent in 1999-2000, and as much as 20.5 percent for women.

<sup>37</sup> See Table I-7,8 in Appendix for details

<sup>38</sup> Unemployment is defined as the percentage of people in the age group 15 years and above on the usual principal and subsidiary status to the total number of people in the labour force.

### Incidence of Unemployment (as a percentage of the labour force)<sup>39</sup>

	1983			1999-2000		
	Men	Women	Persons	Men	Women	Persons
<b>Assam</b>	<b>2.2</b>	<b>2.4</b>	<b>2.2</b>	<b>3.7</b>	<b>8.0</b>	<b>4.6</b>
<b>All India</b>	<b>2.3</b>	<b>1.3</b>	<b>2.0</b>	<b>2.5</b>	<b>1.8</b>	<b>2.3</b>

Data from the NSSO, for 1999-2000, shows an extremely high incidence of unemployment, more than twice the rate in the country. Rural unemployment was almost three times the rate for India and urban unemployment in Assam was just over twice as much. Among women, the unemployment rate in Assam, both in rural and urban areas was three times the all India rate.

### Unemployment Rates (per 1,000 persons)

Usual Principal Status, by Gender and Residence Status, 1999-2000<sup>40</sup>

	Rural			Urban		
	Men	Women	Persons	Men	Women	Persons
<b>Assam</b>	<b>25</b>	<b>12</b>	<b>19</b>	<b>51</b>	<b>28</b>	<b>40</b>
<b>All India</b>	<b>11</b>	<b>4</b>	<b>7</b>	<b>26</b>	<b>9</b>	<b>18</b>

#### B1. Inter district variations in the unemployment rate

A study of the district wise distribution of percentage of non-workers to total population, (as per 1991 Census) and those seeking work<sup>41</sup>, shows that

- In all districts, the percentage of men seeking work was more than that of women<sup>42</sup>.
- 1.92 per cent of men and 1.46 percent of women were reported as being unemployed.
- The highest percentage of unemployed persons was in Kamrup district, followed by Lakhimpur and Kokrajhar districts.
- Kamrup district reported the highest proportion of unemployed males amongst the male population (3.18 percent) followed by Nalbari district (2.74 percent)
- Karbi Anglong reported the lowest male unemployment rate of 0.63 per cent. In this district the female unemployment rate was the lowest at 0.44 percent.
- The highest rate of female unemployment - 2.22 per cent - was reported by Kokrajhar district.

#### B2. Educated unemployed

**There is a significant differential between the unemployment rate of educated and uneducated persons. The incidence of unemployment among the educated is higher than that among the less educated and is much higher in urban areas than in the rural areas.** There is a strong gender bias in respect of unemployment rates among the educated, both in rural and urban areas.

<sup>39</sup> Source: National Human Development Report, 2001 Planning Commission, New Delhi.

<sup>40</sup> Source: NSS Report no 455, Employment and Unemployment in India, 1999-2000, key results.

<sup>41</sup> The rate may be an under-estimate because of the definition adopted in the Census. If marginal workers are considered as unemployed, the percentage of unemployment will increase significantly.

<sup>42</sup> See Table I-7 in Appendix for details



- Educated male unemployed who have obtained an education till the secondary level and above constituted 68 percent and 77 percent of all unemployed men in rural and urban areas of Assam, respectively<sup>43</sup>. As much as 40 percent of all unemployed women in rural areas are educated. In urban areas, this figure was 82 percent.
- Unemployment rates for the educated in Assam are much higher in comparison to all India rates, in both rural and urban sectors, irrespective of sex. Unemployment rates for educated women are much higher than those for men, in both rural and urban areas.

### B3. Unemployment figures from the Live Register

Data from the Live Register indicates that the total number of unemployed people has been continuously increasing. The number of job seekers on the Live Register in 1997, was three times that in 1991<sup>44</sup>.

- The dearth of employment opportunities for educated people is borne out by the increasing number of people with high educational and professional qualifications on the Live Register.
- The number of graduates seeking jobs in 1997 was 89,433, up from 20,579 in 1991. The number of HSLC passed persons seeking employment was 4,96,020, more than double the number in 1991. The number of people with technical and professional qualifications has also been increasing over the years.
- The highest concentration of unemployed youth is concentrated in the 20-24 age-group. The incidence of unemployment in this age-group is higher among women in comparison to men, in both rural and urban areas.
- The unemployment rate among urban women under each age-group is much higher than their rural counterparts.

#### Number of Persons in the Live Register, by Level of Education

Education level	1991	1994	1996	1997
Engineering Graduate	507	1,992	2,284	2,960
Medical Graduate	45	128	189	347
Agricultural Graduate	89	397	652	386
Veterinary Graduate	-	13	62	114
ITI – Engineering Track	3,182	16,428	14,665	12,413
ITI – Non-Engineering Track	466	515	637	5,279
Post Graduate	1,842	5,892	4,983	5,102
Graduate	20,579	60,226	83,997	89,433
HSSLC / PU	64,678	1,99,772	2,45,180	3,65,614
HSLC	2,28,784	4,91,207	4,92,581	4,96,020
Diploma Engineer	1,609	5,892	6,210	7,509
<b>TOTAL</b>	<b>3,21,140</b>	<b>7,84,459</b>	<b>8,53,440</b>	<b>9,87,179</b>

<sup>43</sup> NSS 50th round, 1993-94

<sup>44</sup> The number of job seekers on the Live Register does not represent the total unemployed persons; it indicates mainly the urban educated unemployed. Those who are not employed in the rural areas usually do not register their name on the Live Register because they are looking for different kinds of employment. Besides many job seekers do not renew their registrations, so disillusioned are they by the system.

## B4. Non-Workers

Almost two-thirds (63.9 percent) of people are non-workers as per the 1991 Census. Dependants form the largest single group, followed by students. A preponderant portion of the female population is engaged in household duties. Among non-workers, only 3.8 percent of males as against 37.3 percent of females were engaged in household duties. More than half of male non-workers were dependants and in the case of female non-workers 38.8 percent were dependants.

**Distribution of Non-Workers by Main Activity, 1991**

Gender	% of non-workers to population	Percent of non-workers who are					
		Engaged in household duties	Students	Dependants	Retired	Beggars or Vagrants	Others
Persons	63.9	23.3	30.4	43.8	0.6	0.1	1.7
Males	63.3	3.6	41.3	51.1	0.9	0.1	3.0
Females	69.9	37.2	22.8	38.8	0.3	0.2	0.8

**Despite some gains, unemployment continues to be a serious problem, especially among educated young people. Unless the problem is tackled systematically and concertedly, it is likely become even more serious in the future, with implications for societal stability.**

## 3. Poverty

Poverty is defined not only as income poverty, but also as human deprivation in terms of health and education, shelter, water supply and sanitation. Economists have found that measuring poverty is an extremely difficult task. Measuring deprivation and lack of access is even more difficult. In an attempt to measure poverty, the idea of a minimum standard of living has evolved. There is a broad consensus that the minimum should include a nutritionally satisfactory diet, a reasonable standard of clothing, housing and other essentials and access to a minimum level of education, healthcare, clean water supply and sanitary environment.

Of the many elements that form the minimum bundle, food has naturally received the most attention. Nutrition experts worked out the level of nutrients required for the healthy functioning of human beings. The norm used in India to measure poverty in terms is defined as 2400 calories, per capita per day, in rural areas and 2250 calories, per capita per day, in urban areas.

Recent estimates made by the Planning Commission in the National Human Development Report 2001, show that at the national level, the incidence of poverty by headcount ratio declined from 44.48 percent in 1983 to 26.10 percent in 1999-2000. In absolute terms, the number of poor declined from 323 million in 1983 to 260 million in 1999-2000. The decline has not been uniform across states and regions. The proportion of poor in the rural areas declined from 45.65 percent in 1983 to 27.09 percent in 1999-2000. In urban areas this decline was from 40.79 percent to 23.62 percent. Rural poverty continues to be substantially higher than urban poverty.

**Assam has an extremely high proportion, more than a third (36.09 percent) of its population, under the poverty line.** The percentage of poor in Assam is the highest among the seven States of the North East. It has a substantially higher percentage of poor people than the all India figure of 26.10 per cent. Yet, the percentage of people below the poverty line has declined from 40.86 percent in 1993-94<sup>45</sup>.

**The rural - urban divide is apparent. Two out of five people in rural areas are likely to be under the poverty line, while in urban Assam, the incidence is less than one in ten<sup>46</sup>.** Rural poverty is very much higher (40.04 percent of population in 1999-2000) than urban poverty (7.47 percent of persons), and the incidence of rural poverty is much higher than the all India figure of 27.09 percent. Conversely, urban poverty is about a fourth of the all India figure of 23.62 percent. Urban poverty reduced from 21.73 percent in 1983 to 7.73 percent in 1993-94. Though there has been some improvement in percentage terms, the absolute number of poor shows only a marginal decline between 1993-94 and 1999-2000 (from 96.36 lakhs to 94.55 lakhs) and an increase from 1983, when the number of poor were 77.69 lakhs.

**Only four states had a higher percentage of people under the poverty line - Orissa, Bihar, Madhya Pradesh and Sikkim.** Within the North East, the number of people under the poverty line is highest in Assam (except in Sikkim, which has a high percentage of population under the poverty line but in absolute terms they number only 2 lakh people).

Tripura, Meghalaya, Arunachal Pradesh and Nagaland all have between 30 percent to 35 percent of their population under the poverty line. Mizoram has the lowest percentage of population under the poverty line with 19.47 percent, followed by Manipur with 28.54 percent. **The number of poor in Assam is more than double the number in all the other North Eastern States, put together.**

### Number and Percentage of People Below the Poverty Line, 1999 - 2000<sup>47</sup> States of the North East

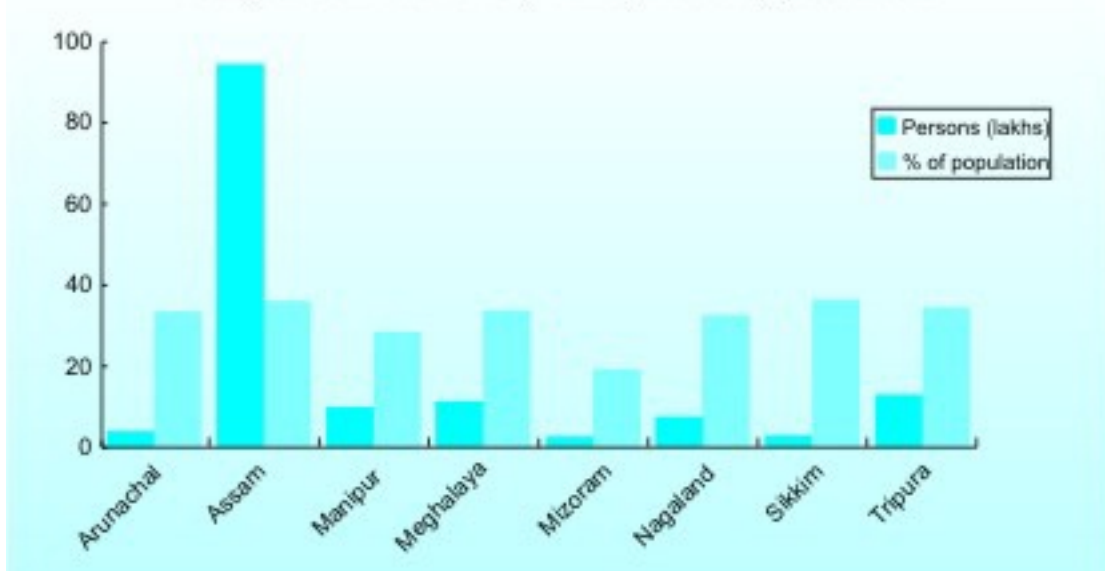
(Ranked by proportion of population below the poverty line)

Rank/State	Number of persons ( in lakhs)	percent
1. Mizoram	1.85	19.47
2. Manipur	7.19	28.54
3. Nagaland	5.49	32.67
4. Arunachal Pradesh	3.98	33.47
5. Meghalaya	8.23	33.87
6. Tripura	13.02	34.44
<b>7. ASSAM</b>	<b>94.55</b>	<b>36.09</b>
8. Sikkim	2.05	36.55

<sup>45</sup> All information from National Human Development Report, 2001, Planning Commission, New Delhi

<sup>46</sup> The urban population constitutes only 12 percent of the population of Assam, as per 2001 Census, compared to 28 percent for India

<sup>47</sup> Source: National Human Development Report, 2001, Planning Commission, New Delhi

**People Below the Poverty Line (NE States), 1999-2000**

### The Human Poverty Index (HPI) for Assam, 1999

A survey was conducted in 1999 for the State Human Development Report, covering (through 17,140 sample households) all the 219 development blocks and 52 urban centres in Assam, to measure human poverty. The three determinants utilised are deprivation in longevity, knowledge and decent standard of living. The deprivation in longevity relates to survival, that is the vulnerability to death at a relatively early age and is represented by the percentage of people not expected to survive beyond 40 years of age. The deprivation in knowledge is measured by the percentage of illiterate persons. Finally, the deprivation of a decent standard of living is represented by percentage of people without access to healthcare services, safe drinking water, pucca dwellings and sanitation facilities, and the percentage of malnourished children. A Human Poverty Index (HPI) concentrating on the deprivation of the three essential determinants of the quality of life was calculated.

Two sets of a Human Poverty Index (HPI) were worked out, using different methodologies. The first set, HPI (A), was calculated using the UNDP methodology in the Human Development Reports. In the second set, HPI(B), the index of deprivation of decent standard of living (P3) was calculated as an average of five sub-indices in contrast to three sub-indices in the HPI(A). The additional sub indices relate to pucca housing and sanitation facilities.

The Human Poverty Index works out to 23.24 using HPI(A) but by the second estimate HPI (B), the index takes a higher value of 34.30. (See tables I - 10, 11 and 12 in Appendix for details) The relative positions of different districts also changed somewhat.

However, the broad geographical pattern of concentration of poverty revealed by the district level, HPI figures confirm a similar picture, according to both variants. The main findings are:

- Poverty is more widespread in the western and southern parts, and in the hill districts of the State.
- As one moves eastward from the western border districts of Dhubri, Kokrajhar and Goalpara, the concentration of poverty falls and the district HPI values lie more or less around the overall State HPI, with the exception of Kamrup which has a relatively low HPI value. Kamrup has a high concentration of urban population, with Guwahati city - the gateway to the entire North Eastern region- and shows a relatively low incidence of poverty.
- Among the other districts, Sonitpur, Darrang and Dhemaji have HPI values somewhat higher than the overall State HPI.
- Poverty is the least in Sibsagar and Dibrugarh districts, which are the tea plantation and mineral rich regions of Upper Assam.

## 4. The Way Forward

The foregoing analysis encapsulates some of the most important issues confronting the State. Income, employment and poverty are three interrelated and central areas of concern. Assam has not been able to progress as much as the rest of the country. Unless it grows faster than the rest of India in the coming years, the gap between Assam and India will become unsurpassable. An analysis of the income trends shows that in the 1970's, per capita income declined due to increase in population; since the 1980's the decline has been more due to a slowing down of the economy. **There is a disquieting rural – urban divide in Assam and an extremely high incidence of poverty in rural areas.**

- Since agriculture continues to be the predominant activity in the State, the Government could examine ways of increasing productivity. Some new initiatives have already been taken and are beginning to show results. The Agricultural Credit Stabilisation Fund and the Non Overdue Cover scheme aim to provide credit facilities to stimulate the rural economy. Limited irrigation facilities and frequent floods meant that loans were often not repaid in the past. With the installation of shallow tube wells in the State, under the Samriddha Krishak Yojana, the situation is changing, and farmers will be in a position to repay their loans. Fresh lines of credit are being started so that the farmers have access to resources. The lack of awareness among farmers, the non-introduction of suitable cropping patterns in the area, non-availability of power supply or damage to field channels are all issues that can be surmounted by a combination of local initiative, community participation and governmental support.
- **In addition to agriculture, income generating activities in allied sectors like dairy development, poultry and livestock should be encouraged.** Some schemes have been initiated in these areas but appropriate packages need to be developed to improve yields. The North - East is deficient in a large number of edible commodities like grain, oilseeds, sugar, meat, fish and eggs and Assam with its resources could try to generate a surplus which can be 'exported' to other States in the North East<sup>48</sup>.
- Despite the long established oil and tea industries, the size of the industrial sector is very small. A series of industries with backward and forward linkages could pave the way for the industrialisation of Assam. A few new initiatives have been taken in Industry too, including the setting up of a Export Promotion Park and Growth Centres. A Software Technology Park is being set up and Videsh Sanchar Nigam Limited (VSNL) is setting up a satellite Earth Station at Guwahati. Given the high incidence of educated unemployment in the State, information technology is a sector with good potential.
- **Several studies have pointed out that given Assam's location, it should explore markets in countries located in South East Asia, in particular countries that border the North East.** Bangladesh can provide a market for Assam's agricultural produce, cement and limestone and power. There are prospects of more trade with Myanmar, and the re-establishment of traditional economic linkages. A study by the Indian Institute of Foreign Trade<sup>49</sup>, identified a number of industries in which joint venture/ participation would be beneficial for both India and Myanmar. Apart from the comparative advantage in small engineering goods, drugs and pharmaceuticals, petroleum products, edible oil and other manufactured goods such as electronic and synthetic goods, also have a demand in Myanmar. Processed food and vegetables, medicinal products, rubber goods, bicycles etc., are other industries where Assam has a potential advantage. Such initiatives have the potential to transform the economies of the North East.

<sup>48</sup> Transforming the Northeast: SP Shukla Commission Report to the Prime Minister, 1997.

<sup>49</sup> Study by Indian Institute of Foreign Trade, 1995, New Delhi

- **Tourism is another latent area that could be developed. Assam with its fascinating natural diversity, picturesque towns, tea plantations, wildlife, unique culture, music and dances can be promoted as an exciting tourist destination, domestically and internationally.** Tourism offers employment opportunities for trained managers and support staff, and fosters indirect employment. There are possibilities for the development of sports, white water rafting, angling, rock climbing and other specialised segments. This will however require investment in the development of tourism specific infrastructure. Care must be taken to develop the sector in a sustainable and environment friendly way.
- **The transport infrastructure needs attention; communication with the rest of the country should be improved.** Communication links within the State need to be enhanced, so that inaccessible and remote areas are better connected.

Central to Assam's development prospects and strategy, and even more so for the people, is the rate at which income and employment are expected to grow, and the rate at which poverty is to decline. Any approach has to address all of these issues.

There is the predicament of a gap between income and employment levels in Assam, and the higher income levels and employment opportunities in the rest of the country. In the short run, and for a variety of reasons, the ability to attract investment from the private sector, will be limited. To be able to close the gap, and given the pivotal role that public investment must continue to play, there will be a need for enhanced transfer of public resources to the State from the Centre. In the context of poverty, the adequacy of funding of public initiatives is even more urgent.

**On the part of the State, there is a need to prioritise, and target especially relatively backward regions of the State and groups of disadvantaged people. A development strategy which is decentralised and seeks to involve a number of young entrepreneurs and the larger community, needs to be developed by the Government, in the sectors in which Assam has potential advantages.**



# Education and Literacy





# Education and Literacy

## A. Education and Development

**Education is a fundamental element of human development. It opens new worlds and provides access and mobility, in the process enlarging opportunities and choices.** Every human being, and especially every child, has a right to education, to knowledge and to learning. The acquisition of knowledge and information helps an individual to improve her own quality of life as well as to participate meaningfully in community life.

**There are societal benefits too; education is an investment in human capital and leads to higher productivity and earning power.** Key indicators of human development such as infant mortality, health status of children, empowerment of women, size of family are positively linked to educational attainments.

### The Right to Education

Article 45 of the Constitution of India states that the State shall endeavour to provide free and compulsory education for all children, until they reach the age of 14 years, within a period of 10 years from the commencement of the Constitution.

Education helps achieve social mobility and income redistribution. A study of 49 countries has found that ‘about a fifth of income inequality can be explained by educational inequality’<sup>1</sup>. Other studies too have shown that increased literacy is associated with improved income share.

**Post-Independence, through successive Five-Year Plans, and in particular in the last two decades, the Government has made concerted efforts to bring education within the reach of all, and to build not only a literate society, but also a skilled and technologically capable one.** Although a State subject, the Centre has taken several initiatives, in particular to meet critical gaps in public provisioning, and to tackle the problem of as yet significant illiteracy. The development of the education sector throughout the country has been within the framework of the National Education Policy, 1986.

This chapter reviews the school education system in Assam. The first section traces the growth of primary education in the State; while the second section identifies areas of concern, notably gender differentials in enrolment, dropout rates and the issue of out-of-school children. The third section examines critical issues, including access, non-formal education and alternative schooling, while in the fourth section; the functioning of schools and the vital issue of quality improvement is addressed. Subsequent sections consider the status of secondary and high school education, and look into the incidence and causes of inter-district variation in literacy rates. Finally, policy and operational issues are examined, each critical to the task of improving the reach and quality of education.

<sup>1</sup> National Human Development Report, 2001, Planning Commission, New Delhi

## B. Primary Education

### B1. School Structure

There are at present four categories of schools, distinguished by their management structure.

- **Government schools**, set up either directly by, or taken over by the Government.
- **Provincialised schools** initially established by the community and subsequently 'covered' by the Government. While these not Government institutions, expenditure on staff salaries is met from the State budget. These schools are also eligible for construction grants from State funds.
- **Venture schools**, set up with community support. Most venture schools aspire to be provincialised by the Government.
- **Private schools**, mostly with English as the medium of instruction, a growing number of which have been set up in recent years, in urban areas and even rural areas.



Primary schools cover classes I to V, and middle schools cover classes VI to VIII. Many middle schools have primary sections as well. Similarly, several high schools have middle and primary sections. There are very few separate primary or middle schools exclusively for girls.

**Most schools at the primary and middle stage in Assam, have been set up through community initiatives and have been subsequently taken over by the Government**



#### The District Primary Education Programme (DPEP) Initiative in Assam

The DPEP programme was started in 1994 in seven States and now operates in 22 States, across the country. It aims at universalising primary education and improving the quality of education in the government school system.

The interventions under DPEP cover school infrastructure -buildings and black boards, teacher training, a child centred approach to learning, textbook development and curriculum design.

Assam was one of the seven States where the DPEP programme was first launched. Today, nine districts are part of the DPEP initiative. These districts are - Dhubri, Kokrajhar, Bongaigaon, Goalpara, Barpeta, Darrang, Sonitpur, Morigaon and Karbi Anglong. All these districts had literacy rates that were less than 50 percent in the 1991 Census. Literacy rates for women were about 10 percent lower.

### The Legal Framework

The Primary Education Act of Assam was passed in 1926, and it emphasised free and compulsory primary education for all. It also authorised any local authority to introduce primary education anywhere in Assam. In 1947, another Act was passed to transfer primary education from local authorities to the Primary Education Boards. It advocated phased action to provide free and compulsory primary education.

In 1954, the Basic Education Act created a State Advisory Board and regional boards at the district level, which were also known as School Boards. Later in 1962, the Government passed the Assam Elementary Education Act, which provided for the recognition of elementary schools. In 1974, the Assam Elementary Education Act provided for the taking over of the financial responsibilities of primary and middle level schools.

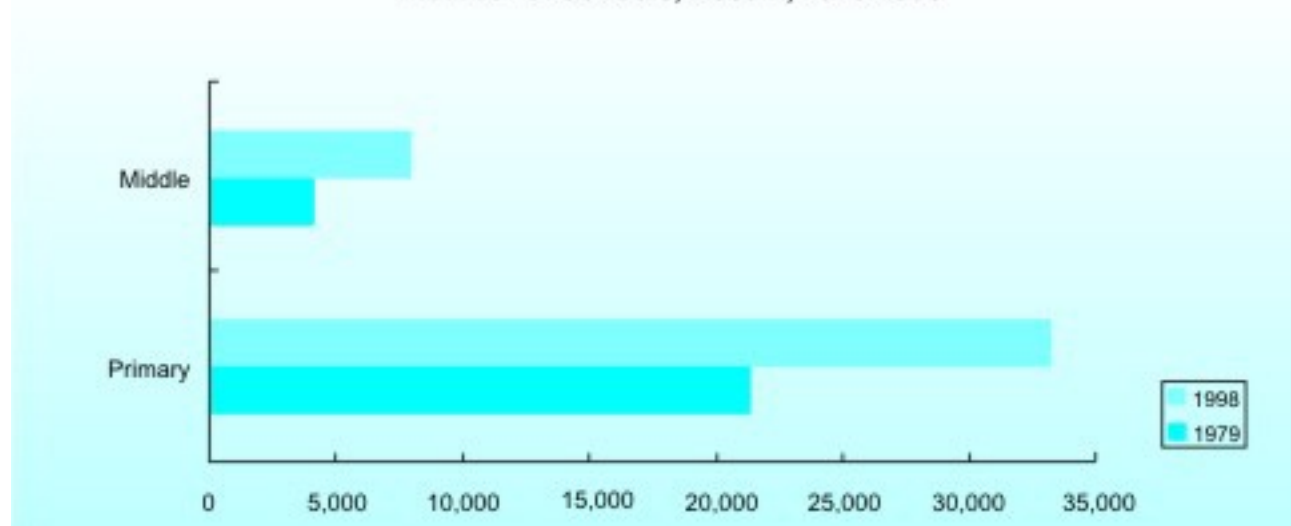
## B2. Elementary Education – Growth and Expansion

### i) Provisioning

There has been an impressive growth of the elementary education system in Assam in the past few decades. This is reflected in the significant increase in the number of primary and middle schools, the number of teachers at the primary and middle levels, enrolments at both the levels of elementary education and in improved school infrastructure.

- There has been steady growth in the number of primary and middle schools. In 1979 there were 21,354 primary and 4,185 middle schools in the State. By 1998 these figures had risen to 33,236 primary schools and 8,019 middle schools, reflecting growth rates of 56 percent and 92 percent respectively.
- Per pupil expenditure in real terms at the elementary stage also increased by 6.1 percent per annum, during the period between 1991 and 1998.

Number of Schools, Assam, 1979-1998



- Primary school infrastructure has improved as a result of State Government initiatives, Operation Blackboard, schematic interventions undertaken under the Jawahar Rozgar Yojana (JRY) and the Employment Assurance Scheme (EAS). In 1993, the percentage of pucca and partly pucca buildings for primary schools was 50.4, while for middle schools it was 53.7 percent<sup>2</sup>.

<sup>2</sup> Sixth All India Education Survey (AIES) (1999) NCERT, New Delhi

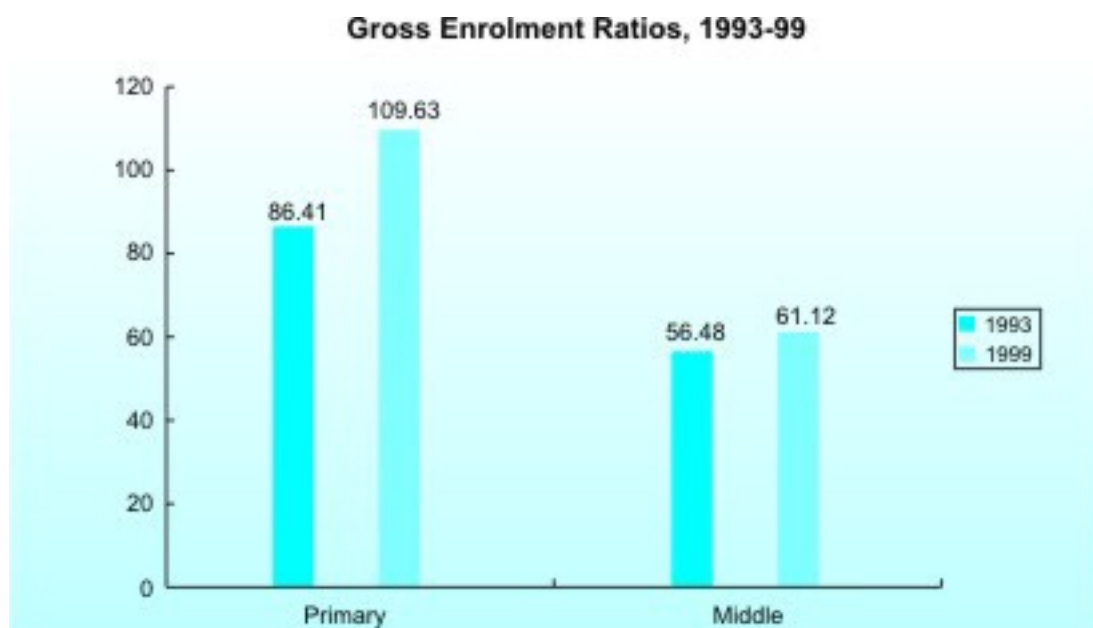
## ii) Enrolment ratios

Enrolment in these institutions grew at rates approximating 125 percent in the same period. The enrolment in primary schools grew from 14.56 lakhs in 1979 to 32.34 lakhs in 1998. The corresponding figures for enrolment in middle schools were 6.2 lakhs and 14.06 lakhs.

The official figures of enrolment are indeed impressive. There are many, many more children in school than there were a decade ago. The figures may even be under-estimates, since enrolments in the primary sections of middle schools and the middle sections of high schools are not included in these figures. These growth rates compare favourably with those of other States. In fact, for the middle school level, the growth rates in Assam in the 1990s were among the highest in the country.

### ii. a) Gross Enrolment Ratio (GER)<sup>3</sup>

The Gross Enrolment Ratio for Assam has improved considerably in recent years. Data for the years 1993 and 1999 indicate improvements at both the primary (classes I-V) and middle (classes VI-VIII) stages. Against the GER of 86.41 for the primary stage and 56.48 for the middle stage in 1993, the GERs in 1998-99 were 109.63 for the primary stage and 61.12 for the middle stage. The GERs for 1998-99 compare favourably with the all-India average GER of 92.14 and 57.58 for the primary and middle stages respectively.



### ii. b) Net Enrolment Ratio<sup>4</sup>

In many ways, the Net Enrolment Ratio is a better indicator of the actual rate of school participation. Net Enrolment Ratios<sup>5</sup> for the primary level were 95.4 for boys in Assam against 71.0 at the all India level. The NER for girls was 74.9, against the country-wide figure of 48.8. The figures indicate that Assam fares well in a countrywide assessment of NERs.

<sup>3</sup> The Gross Enrolment Ratio (GER) refers to enrolment at a specified level of schooling irrespective of the age of the student enrolled to the population of children in the age group expected to be at that level of schooling as per prevalent norms of schooling.

<sup>4</sup> NER refers to the population of a particular age group enrolled at a specific level of schooling, to the total population of that age group

<sup>5</sup> Calculated by the Ministry of Human Resource Development, GOI for the Education For All (EFA) 2000 Report



### iii) Pupil: teacher ratio

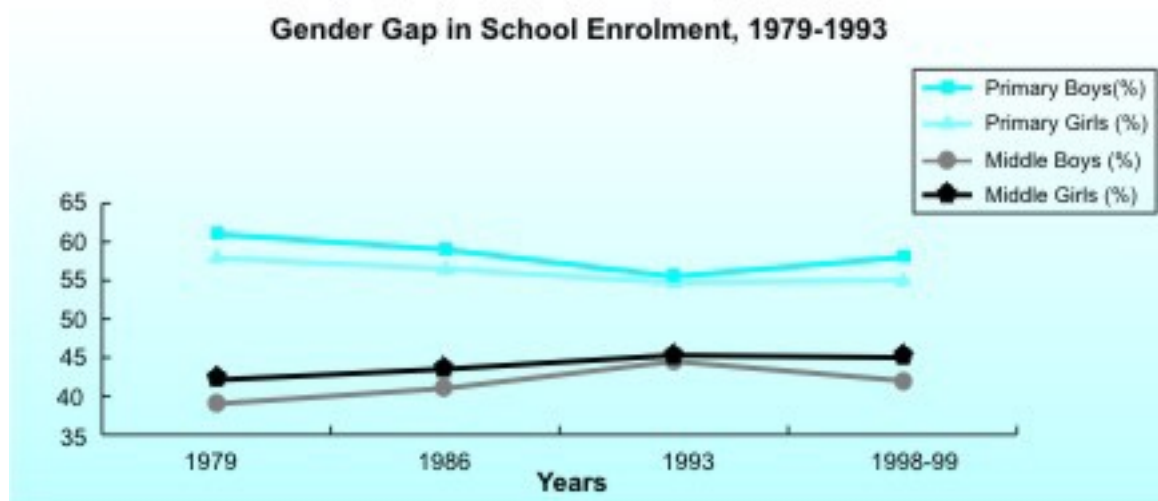
The pupil: teacher ratios at primary and upper primary levels in Assam are among the most favourable in the country. In 1997-98, the ratio was 37:1 at the primary level and 22:1 at the upper primary level for the State, against the all India ratios of 42:1 and 37:1 respectively<sup>6</sup>.

### iv) Closing of the gap between boys and girls enrolment

The gap in enrolment in school between boys and girls still exists, but is narrowing.

#### Trends in School Enrolment, Assam<sup>7</sup>

	Primary		Middle	
	Boys (%)	Girls (%)	Boys (%)	Girls (%)
1979	57.9	42.1	61.0	39.0
1986	56.5	43.5	59.0	41.0
1993	54.7	45.3	55.5	44.5
1998-99	55.0	45.0	58.0	42.0



**These are all positive developments.** The expansion of physical infrastructure has enabled unprecedented access to the schooling system, providing opportunities and opening vistas of literacy and education in even the remotest parts of the State. Teacher induction has proceeded apace; the relative lack of alternative employment for educated youth has occasionally put singular pressures on the system to continue to recruit teachers.

Improved access is a factor that has led to more boys and girls attending school. Gender disparities are lessening, partly because of Governmental initiatives for the sector, but also because of increased awareness, and changes in the socio-economic environment. The sustained rise in enrolment ratios is another heartening development. Overall, and irrespective of the indicator, it is clear that there has been growth and expansion in the elementary education sector, in many cases faster than in many other States.

<sup>6</sup> National Human Development Report, 2001, Planning Commission, New Delhi

<sup>7</sup> Sixth AIES, NCERT, 1999, New Delhi



### B3. Elementary Education - Areas of Concern

The broad picture is of overall expansion and vastly improved access. Beyond the aggregates however, there are clearly identifiable areas of concern, many of them in areas vital to the attainment of the goals and the sustainability of the gains.

#### i) Habitations without schools

Notwithstanding the improved access to education, there are still a significant number - almost a fifth of all habitations in the State - without government/provincialised primary schools. In effect this means that about four fifths of the habitations have a primary school either within the habitation or within a distance of 0.5 km<sup>8</sup>. Access to schools is much better at the primary level. At the upper primary level, however, less than half of the population is served by a school within a kilometre of the habitation. These figures are below the national average, indicating that there are relative access inequities in the State, and that there continues to be a requirement for schools in some areas.

#### ii) Out-of-school children

The increase in Gross Enrolment Ratios notwithstanding, there is substantive information to indicate that there continues to be a significant number of children either out of school, or attending school irregularly. Figures for enrolment ratios (Gross and Net) also show that the goal of universal enrolment is still some distance away. This is true at the primary level, where the ratios are higher, and significantly so at the middle school stage, where the gap is much wider.

#### iii) School drop-out and wastage

Systemic inefficiencies (continuance of dropout children in attendance registers and other enrolment inflating factors) and inconsistent data make the estimation of school dropout rates difficult. A study conducted by the North Eastern Institute of Bank Management, Guwahati (1996) analysed the enrolment of primary school students in DPEP districts of the State<sup>9</sup>. The study indicates that the wastage (drop-out + repetition) at the primary stage is as high as 59.8 percent (59.7 percent for boys and 62 percent for girls).

A comparison of the enrolment data of Class I and Class IV, in any single year can also give pointers to dropout and wastage trends. Available data (1998-99) shows that only about 40 percent of children from Class I actually continued to progress till Class IV, and 35 percent till Class VII. Most 'drop-out' occurs after Class I. For instance, in 1996, in Dhubri and Darrang districts, only 42 percent of the children originally in Class I made it to Class II<sup>10</sup>. There are also disparities in dropout rates between regions and population groups. Dropout rates are very high in *char* (riverine) areas and higher still for girls in these areas.

The grade-wise repetition rates for Assam are higher than the all India average. Available data from the EMIS in DPEP districts indicates repetition rates as high as 40-48 percent in Goalpara, Bongaigoan, Kokrajhar and around 30 percent in Darrang, Morigaon, Sonitpur, Barpeta for Class I. The repetition rates for Class II, are

<sup>8</sup> Sixth AIES, 1999, NCERT, New Delhi

<sup>9</sup> In the NEIBM study, students attending school for fewer than 6 days in a months were classified as dropouts, those attending school between 6-12 days in a months were categorised as irregular, and children attending school for more than 12 days in a month as regular.

<sup>10</sup> The fact of over-estimated or inflated enrolment rates in Class I is a possible additional factor. This does not however detract from the criticality of the issue.

about half of the rates in Class I. The overall repetition rate for the State (1996-97) at the primary level was 29 percent, one of the highest among all DPEP states.

Informal assessments of student attendance indicate low attendance rates, figures that tend to be accentuated by inflated enrolment. The proportion of students regularly attending school in Class I, estimated by the NEIBM study was only about 30-35 percent, figures that tended to improve only marginally along the educational ladder. The situation in urban areas appears to be more positive. These observations of low attendance are supported by figures of students who appear in the end of year examinations.

#### **iv) Poor and irregular attendance**

The 52<sup>nd</sup> Round of NSSO (1995-96) provided estimates of the Net Attendance Ratios (NAR), which reflects the proportion of children currently attending school. This was on the basis of sample household surveys. The data covered unrecognised private schools as well. The NARs for Assam were 72 and 43 for Class (I-V) and Class (VI-VII) respectively<sup>11</sup>. There is therefore a striking variation between the Gross Enrolment Ratio (109 in 1998-99) and the Net Attendance Ratio (72) for the corresponding group of classes, i.e. I-V. This is due to a gap between parental perceptions and the statistics generated by the reporting system. It is indicative of the fact that a large number of children of the relevant school going age are not attending school. They have either not enrolled, or have dropped out, or are attending very irregularly, so that they are perceived as not enrolled by their parents.

#### **v) Increasing gender gap at the middle stage**

Continuing gender disparities, and their accentuation along the education ladder is a cause for concern. At the middle stage, the boy-girl differential is almost 16 percentage points. There are indications that this gap may actually have increased over a period of time, and that the boy-girl enrolment differential has not reduced significantly in the 1990s. These are indeed troubling trends.

#### **vi) Uneven pupil-teacher ratios**

Despite favourable aggregate pupil-teacher ratios (PTRs), there are considerable inter-district and intra-district variations indicative of non-objective and skewed placement of teachers. Against an overall PTR of 40:1 at the primary level, Dhubri district has a PTR of 58:1 and Goalpara 48:1. Even within a district, schools in interior areas tend to have fewer teachers and high PTRs. For example, in Morigaon district, Bhurbandha block has an average PTR of 26:1 while Lahorighat block has a PTR of almost 50:1. The high proportion of single and two-teacher schools (15 percent and 50 percent respectively) further compounds the problem, since inadequate staffing and multi-grade situations tend to lead to further anomalies.

#### **vii) Low attainment levels**

DPEP initiated Baseline Assessments of student performance at the primary stage indicates low attainment levels. The average achievement levels in class I for language and mathematics vary between 40-55 percent, with comparatively lower achievement in mathematics. At the class IV stage, the achievement levels are even lower (35-50 percent). The fact of low attainment averages masks the detail that there will be children who fare extremely badly in educational attainment levels. This is indicative of serious systemic wastage.

<sup>11</sup> The corresponding NARs for the all India level were 66 and 43 respectively.

### viii) Infrastructure gaps

Despite the overall improvement in school infrastructure, there continue to be provisioning deficiencies, in particular for additional classrooms, drinking water and toilet facilities, at the primary and upper primary levels. The requirement of infrastructure is likely to increase on account of anticipated higher enrolment, and the educational system in the State needs to be prepared and enabled to meet this challenge.

**In sum, the issues outlined above notwithstanding, the State possesses inherent advantages in the elementary education sector. Not the least of these is the strength of community motivation and initiatives for education, growing aspirations amongst the people for the benefits of learning, a large teacher base, and increases in spending.**

Assam is now making a concerted effort to ensure enrolment and regular participation of all 6-14 year old children in school, and the completion of elementary education up to class VII/VIII, with acceptable learning levels. Conscious of the gender gap in education, the Government has identified districts, population groups and sub-district pockets with substantial gender differentials on the basis of disaggregated data. These segments and areas are receiving special attention, and this policy appears to be showing results. For instance, figures collected through the Educational Management Information System (EMIS) for districts covered under the District Primary Education Programme (DPEP) show lesser gender gaps in primary level enrolment.

**The task is daunting, but not unachievable. In fact, Assam is placed among the intermediate level States in terms of the status of elementary education and can move quickly towards universalising primary education, with the right policy thrust and focused implementation.**

## B4. Elementary Education: Looking Ahead

There is increasing recognition of the need to address the issues outlined above, and a commitment from the State Government to create an enabling environment for the universalisation of primary and elementary education. Public awareness too has created its own pressures for performance and delivery of basic services.

### i) Universalisation of access

The first step in moving towards the goal of universal primary/elementary education is the provision of universal physical access. At the core of this is the establishment of school facilities at the primary and middle stages. The key components of such an approach must cater to facilities for (a) pre-primary schooling, (b) primary and middle schooling, and (c) children with disabilities.

#### a) Pre-primary schooling

Pre primary education is the initial and fundamental stage in the learning process. Children who have attended early childhood education centres have higher rates of participation and completion at the primary stage. The pre-school age (3-6 years) is very important for the educational development of children; appropriately designed learning programmes at this time can equip children for subsequent stages of the education cycle.

The coverage of children in the age group 3–6 years is, however, fairly limited in the State. There are only 199 Government pre-primary schools. In addition, there are some pre-primary schools run by NGOs, trusts and

entrepreneurs. These are increasingly sought after in urban and semi-urban areas. Their coverage in rural areas is, however, very limited.

The early childhood education (ECE) component of the Integrated Child Development Services Programme (ICDS) provides some pre-primary learning, in addition to its primary focus on improving the nutritional status of children in the 0-6 year age group. The ICDS is operational in 196 blocks, and a limited range of urban slum

#### Enrichment of Early Childhood Education

The Early Childhood Education (ECE) component of the ICDS programme is in need of review and upgradation. Relocating Anganwadi centres near or within primary schools can provide linkages with the schooling system and mutual reinforcement. Training of Anganwadi workers to impart ECE would pay results. Administrative measures such as coordination of the timing of centres with that of schools, and payment of an honorarium to Anganwadi workers could be considered.

areas. There are now over 25,000 *Anganwadi* centres in the State with about 30 children in each centre, catering to children in the 0-6 year age group.

Under the DPEP initiative, 2,175 ECE centres called *Mukulikas* have been established in Assam. These are largely in the areas unserved by ICDS centres. A curriculum containing appropriate activities has been

developed by adopting principles of joyful and activity based learning, use of rhymes, folk songs, games and a large amount of play and teaching learning material. Locally selected ECE workers (*Malini* and *Sahamalini*) undergo training prior to the opening of the centre. Academic support to the ECE workers is sought to be ensured through workshops and frequent visits of district and block level resource persons. The management of the centres has been assigned to the Village Education Committees and to mothers' groups. This has facilitated community ownership and initiative.

#### b) Primary and Middle level schooling

There are more than 32,000 primary schools and sections in the State, a number that would ordinarily appear adequate. However, there are still 2,700 habitations, with populations of 300 or more, that do not have a primary school/section within 1 km. The Sixth AIES indicated that there were another 12,672 habitations with populations in the range of 100-300 (15-40 children in the primary age group) **without** access to a primary school. In 1993, 88 per cent of the habitations in Assam, with a population of 500 or more had a middle school within a radius of 3 km<sup>12</sup>. Planning for universal access at the middle stage is more complex because it is dependent on the number of primary stage students who will move on to the next stage, in itself a complex task of assessment. Many middle schools have under-utilised capacities. A systematic school mapping exercise can establish the need for amalgamation of schools, the need for more schools or for upgradation.

**The task ahead therefore is not only to build schools and infrastructure, but also to do so on the basis of objective exercises of survey, planning, rationalisation and reorganisation.**

#### c) Access for disabled children

Children with disabilities do not enjoy convenient, special or sensitively designed and operated access to education in Assam. A scheme for Integrated Education for Disabled Children (IEDC), initiated in 1983-84, has largely remained non-functional. Some initiatives have however been taken by the DPEP, including the formation of district and state resource groups and involvement of doctors, teachers and social workers. Surveys of disabled children have been conducted in selected clusters of blocks of Goalpara, Darrang and

<sup>12</sup> Sixth AIES, NCERT, 1999

Sonitpur districts. This is being followed up by training of teachers and by the preparing of children prior to their integration in primary schools. However, IEDC is a difficult area and requires specialised skills, and attitudinal changes among teachers, administrators and parents. There is a shortage of resource persons with the requisite training to help teachers in integrating disabled children in the classroom. The State intends to undertake an intensive effort in this area and make up for lost time.

## ii) Out-of-school children

### a) The estimates

It is estimated<sup>13</sup> that there were about 10 lakh children in the State in the elementary school age group (6-13 years), who were not in school during 1995-96. Extrapolating the figures till 1999, gives an estimated figure of 12 lakh children. These figures provide an indication of the magnitude of the problem. To be operationally meaningful, they need to be complemented by household level data on out-of-school children, disaggregated by the years of schooling and information on non-enrolment and dropouts, estimates for which are now available.



An important potential segment of out-of-school children are working children. Although the incidence of child labour is officially reported to be low by the State Government, there is a body of evidence to suggest that child labour does exist in the State. According to the 1991 Census, cited by the National Human Development Report, 2001, the number of working children under 15 years of age in Assam is 5.5 percent, which is actually higher than the all India average of 5.4 percent.

### Working Children in Assam, 1991

Working Children in the age group 5 to 14	Assam			India		
	Rural	Urban	Combined	Rural	Urban	Combined
Boys	7.2	3.0	6.8	6.6	2.8	5.7
Girls	4.2	2.8	4.1	6.3	1.2	5.1
Children	5.7	2.9	5.5	6.4	2.0	5.4



#### Children at Work, Not Play

Children at work – at tea stalls, motor garages and shops, and as domestic helpers – are visible in urban Assam. In the rural areas also, some children, a larger proportion than in urban areas, and both boys and girls, work – as domestic help, graze cattle and work in the fields. Children also work in brick kilns in some pockets of the State. In Dhubri district, children are employed in beedi-rolling work.

While these children are not kept in 'bondage', they work long hours, are underpaid and their education suffers. Official surveys conducted by the Labour Department in 1997, identified 92 children working in hazardous occupations and 15,213 children in non-hazardous occupations. These figures are likely to be under-estimates.

<sup>13</sup> Based on the NSSO (52<sup>nd</sup> Round, 1995-96) estimates of age specific attendance ratio

**The incidence of child labour (especially farm based work at specific times of the year and the retention of girls for household work) is reported to be significantly higher in poorer families. Girls from poor families also have lower transition rates from the primary to the middle stage of schooling.**

*b) The reasons*

Enrolment and participation of children depends on many factors - school and home related. Many children are not able to go to school or complete even primary schooling, for a variety of reasons.

- One major reason is poverty, which impacts on participation and completion rates, and even achievement. The cost of sending children to schools is a deterrent for the poorest families. Even though education at the elementary stage is 'free', several studies show that indirect costs associated with children's education are around Rs. 300 per annum at the primary level and more than Rs. 500 at the middle stage<sup>14</sup>.
- First generation learners are disadvantaged by the fact that their parents may not be able to help them with their schoolwork. In such cases, children may fall behind with their schoolwork, lose interest in study and later, drop out.
- Girls are often entrusted with responsibilities of sibling care, and with domestic chores. This may impact their progress in school, or even prevent them from attending school.
- In areas of difficult terrain, living conditions, or even migration, may hinder school access and participation. For example, in *char* areas, in the monsoon, there is an almost inevitable movement of people away from their semi-permanent location.

The State Government has schematic interventions intended to address the above issues, and to provide incentives to special interest groups to send their children to school. These include the supply of free textbooks, attendance,

#### **Special Focus Groups – Tea Gardens and Forest Villages**

Children in tea garden and forest areas continue to have low levels of enrolment and education and a special effort is required to bring them into the school system.

##### ***Children in tea garden areas***

The GER for the tea tribes is 67.04 against 84.97 for the State, the percentage of children never enrolled is 21.35 against 19.26 and percentage of currently not-enrolled is 51.99 against 33.37. This clearly reflects the poor status of primary education in the tea garden areas.

Most of the schools are not provincialised, but run directly under the tea garden management. There is virtually no government supervision or quality control on the schools being run by the tea garden management. The teachers are also usually not covered under the pre-service and in-service training programmes. For the first time, teachers of tea garden schools are also being included in the recurrent in-service teacher training programmes, under DPEP.

Often both parents work in the plantation and the elder children, especially girls, often have to stay back at home to look after their younger siblings. A multi-pronged strategy is therefore needed to ensure physical access and regular participation in school of children in tea garden areas.

##### ***Children in forest villages***

People living in 'encroached' forest villages especially in the northern belt bordering Bhutan and Arunachal Pradesh do not have access to schools. While there are serious administrative and law and order issues involved in providing facilities in such areas, a few lakh people in the State are completely deprived of basic minimum facilities, including primary education for their children. An assessment of this problem is underway in collaboration with the local communities, and appropriate strategies are being devised to provide educational facilities in these areas.

<sup>14</sup> Source: 'Average expenditure by level of education', calculated by Department of Education, Ministry of Human Resource Development, Government of India.



merit and achievement scholarships, and the provision of midday meals at the primary stage. There is a need to review the functioning of these schemes, and to restructure them to make them more targeted and effective.

There are other measures undertaken as well by the State Government. Awareness campaigns on issues of enrolment and retention of children were carried out in the initial years, under DPEP to mobilise support for education.

### iii) Schooling 'out-of-school' children - new learnings and initiatives

A number of initiatives, especially targeted at 'out-of-school' children have been taken, in particular at the Panchayat or block level. These include summer camps to prepare children for enrolment in formal schools, bridge or transition courses for detained children, and for those who have been absent from school for long periods. More than 30,000 children have already been put through bridge courses in the nine DPEP districts.

Interventions in places of religious instruction like *Maktabas* and *Madrassas* have been undertaken to reach other 'out of school' children, especially girls. Special strategies for deprived urban children, including children living in slums, street children, and domestic workers are being formulated. Innovative strategies, like long duration residential camps for adolescent girls, are also under consideration. Some of these programmes have been extremely successful, while others are just beginning.

#### Sarva Siksha Abhiyan- Education for All

Sarva Siksha Abhiyan has now been initiated in the 14 non-DPEP districts of the State. The programme will soon cover the entire State. It aims at a concerted effort to ensure universalisation of elementary education, in a fixed time frame.

As a first step, house-to-house surveys have been conducted to find out the education status of every child. School and village surveys have provided information on the infrastructure needs of schools, the community perception of children's education, migration patterns and other insights that are being used to plan interventions in different areas.

#### a) Alternative Schooling (AS) programmes under DPEP

More than 3,100 alternative schools have been set up, in the nine DPEP districts. Alternative schools have been opened in school - less villages that do not have a provincialised primary school or in villages where the regular schools have only one teacher and the pupil-teacher ratio is 60:1 or more.

In some of the riverine or char areas, *Maktabas* (religious schools) are being used as Alternative Schools for girls belonging to the Muslim community. *Maktabas* are selected on the criteria of adequate number of out-of-school children especially girls, in a particular village and the academic qualification of the *jonab* (teacher or guru).

After identifying the *Maktabas*, advocacy campaigns are organised involving Village Education Committees (VECs). The most difficult part of this campaign is to convince the *jonabs* to conduct the extra hours of non-formal education without any extra remuneration from DPEP. An agreement is signed to make the process formal. Before they begin to teach, the *jonabs* are called for induction training at the DIET/BRC. Besides the induction training, the *jonabs* also undergo training in other aspects like joyful learning, and multi-level teaching.

#### b) Strategy for tea garden areas

The Government is strengthening the tea garden schools and insisting on additional investment by the tea garden management. Various steps are being taken to improve learning levels and enrolments in the tea garden areas. These include

- Inclusion of these schools in the education department's programmes for teacher training, academic support and supervision.

- Establishment of crèches/ balwadis to promote participation of girls.
- Adoption of strategies like bridge courses and residential camps to provide access to older 'out-of-school' children.
- Emphasis on adult female literacy programmes, to encourage the demand for children's education.

At the middle school stage, the problem of access and participation is even more acute and there is a need for the establishment of middle sections in many gardens. These requirements are being assessed, so that appropriate action can be taken.

### c) *Traditional youth dormitories as centres for education*

Youth dormitories, popularly known as *dekachang* (which literally means home for the young) in Assam, are prevalent among most of tribes in north-east India. The hill-tribes in particular have the institutions of bachelor dormitories, such as the *Samadi* among the Tiwas (Lalungs), the *Terang* among the Karbis, the *Nodrang* among the Dimasas. These dormitories help young people to understand their indigenous way of life and learn the ways of their communities. Here young boys undergo training and orientation in traditional skills and community values. It may be possible to work through these traditional institutions to reach children who are not attending formal schools. This will require an in-depth understanding of the functioning of these institutions and an extremely sensitive approach to using them.

**While the starting point of alternative schooling interventions in most parts of the country has been access for specific disadvantaged groups, some of the models have also experimented with alternate pedagogy.** Such alternative systems have stressed multi-level, non-graded classroom transaction with appropriate materials that support self and group learning processes, provide learning experiences for children which draw upon their life experiences and promote problem solving and creativity.

**Alternative Schooling can be an interesting influence for realistic and pragmatic changes in mainstream formal primary education. In time, the boundary between the two systems could disappear and the formal schools may change significantly in their functioning, to be able to include and retain children of very disadvantaged groups also.**

### iv) **Community participation and involvement**

Traditionally, village communities in Assam have played an active role in the setting up and management of schools. With 'provincialisation', the community's interest and ability to work for school improvement has declined. The current system of educational administration has little scope for enlisting the support or involvement of the community in school management. It is being increasingly realised that the involvement of the community in school affairs is useful in building a sense of ownership and improving school management.

Throughout the State, Village Education Committees (VECs) have been constituted through a process of awareness generation. In many areas, the VECs have imparted a new dynamism to school functioning. This can be attributed to the awareness generation and community contact programmes that preceded the formation of the VECs. **There are almost 21,000 VECs operating in the State and 1,000 Tea Garden Education Committees. In addition, more than 38,000 School Managing Committees, and close to 2,500 Gaon Panchayat Education Committees have been constituted through a very transparent and participatory process.** These bodies are likely to play a major role in school improvement and ensure accountability of

the school system. The newly elected Panchayat representatives have also evinced interest in the progress of universalising elementary education in the State.

The involvement of the community has not remained confined to VECs. DPEP has also been able to draw upon the commitment and strength of well-motivated women's groups. In the early stages of implementation, women's awareness camps were held as a precursor to forming them into groups. Now women are being trained and oriented by volunteers about issues that are relevant to them and are increasingly involved in the education of their children.

The involvement of the community with school management should be institutionalised. **In Assam, devolution of powers to the Panchayats in the area of primary education is currently underway and this decentralisation will significantly change the way schools function.**

#### Women's Group Monitors Schools and Facilitates Development

In Mayang cluster in Kopili Block, in Morigaon district, a women's group was already in existence. DPEP-Assam supported the organisation of an awareness building convention by providing resource persons. Three VEC members happened to be members of this women's organisation and campaigned against the sale of liquor in the village. The shop owners were persuaded to ply rickshaws as an alternative means of livelihood.

Eight Self-Help Groups have been formed, out of which seven have collected money. The women also conducted a sanitation campaign, developed the approach road to the school and *nam ghar* (place of workshop/religious discourse).

The most significant outcome has been the formation of Mothers' Groups, which visit the school thrice a month. They check the attendance and try to prevent children from dropping out of school by visiting the homes of the truant children and talking to their mothers.

#### v) Effective instructional time: School calendar and timings

Instructional time or 'time-on-task' is an important factor in the process of learning. In Assam, schools are required to function for 210 days in a year; many function for far fewer days, often only around 150 days. In remote and in rural areas, the number of hours of instruction per day may be severely curtailed by the late arrival and early departure of teachers. Teacher absenteeism may mean that there is no instruction on a particular day – or for several days together. Against a norm of a minimum of 1,000 instructional hours at the primary level, the average number of instructional hours may actually be much less. This may be even further reduced in multi-grade situations, which are fairly common in rural areas.

Attendance in schools reduces significantly around the time of sowing and harvesting and before and after festivals. The present school calendar does not address the issue of seasonality in children's attendance. There is little flexibility to adjust the school calendar at the local level. Improved supervision, greater accountability to the community and enlisting the support of teachers and teacher associations can ensure that schools run for more days and for the prescribed number of hours.

**In some areas, double shift schools have come up as a spontaneous response to inadequate infrastructure. However, this is not a practice that should be encouraged unequivocally, since it often means reduced hours of instruction for each shift.**

#### vi) Supervision

Educational functionaries in the field tend to function in an 'inspectorial' mode, and are quite unacquainted with the methods used to provide effective support for school improvement. The system is too centralised,

with virtually no powers below the block level. The number of schools for which a Sub-Inspector of Schools is responsible is too high (60-80) for any effective recurrent academic support. The experience with Block and Cluster Resource Centre Coordinators, under DPEP, in Assam and in other States, has provided some solutions to the twin problems of ineffective academic support and supervision and the experience is being applied to non DPEP schools as well.

### C. Quality Improvement - Teachers and Curriculum

Improving the quality of schooling is a precondition for better retention and higher achievement. The quality of the teaching learning process in the school, is dependent on a number of factors, including the selection, placement and training of teachers, the provision of regular academic support, on curriculum, textbooks, workbooks and teaching learning material and on the support received from institutions responsible for quality improvement.

A number of measures are now being taken to address these issues. Teachers are being provided pre and in-service training. Academic support is being provided through Block and Cluster Resource Centres in DPEP areas and best practices are being disseminated to other districts.

Curriculum development and enrichment is also receiving attention. The curriculum is at present simply a set of expected learning outcomes, with stress on transmission of information. Usually, the textbooks are uninteresting and unattractively designed and illustrated. Facts are stated one after another and concepts introduced without adequate preparation for understanding previous concepts. Often the language is difficult, the exercises uninformative and the emphasis is on rote memorization. Thus it is not uncommon to find children in classes II and III, unable to even haltingly read a few sentences, from any book besides the textbook. For those who do manage to read, the effort in recognizing each alphabet and joining them to form words is so great, that they cannot comprehend the meaning of the text.

The problem of a significant proportion of children in Assam having a home language different from the school language makes the process of learning to read and write even more complicated.

Pedagogical changes are being incorporated in new programmes. SCERT has prepared new textbooks for Class I to IV, but they have still to be introduced in the schools. The content and approach of the curriculum and textbooks at the elementary stage has been designed to promote the positive elements of Assam's society. A local specific approach, like using the mother tongue in the classroom, using stories from local folklore and materials which children can relate to, is being encouraged to make learning more relevant.

### D. Expenditure on Elementary Education

The expenditure on elementary education in Assam has been increasing over successive Five Year Plans.

- Expenditure on elementary education was about 60 percent of the total expenditure for the education sector, in 1996-97.
- The share of education in the total revenue expenditure has hovered between 22-24 percent, during the period 1990-91 to 1997-98.

- The real per capita expenditure on education has also increased significantly (by about 23 percent) during this period.
- The per pupil expenditure on elementary education is quite high in Assam; though three States - Himachal Pradesh, Kerala and Tamil Nadu - have higher expenditures. However, the real growth rate of pupil expenditure during the 1990s in Assam has been the highest in the country.
- States like Karnataka, Maharashtra and Andhra Pradesh figure below Assam with respect to per student expenditure at the elementary stage. This is due, in large measure to the large-scale appointment of teachers, which were made in Assam in the early 1990s.
- Many States like Uttar Pradesh, Karnataka, Andhra Pradesh, Madhya Pradesh and Gujarat have gone in for large scale appointment of para teachers in regular schools and also for filling up regular teacher vacancies in the past 3-4 years, which is not fully reflected in the analysis.
- Based on these expenditure trends, (over the 1991-1997-98 period) including the real growth of expenditure on education, the share of education expenditure in SDP, education expenditure as a proportion of the total budget, real per capita expenditure on education, real growth of elementary education expenditure, elementary education plan share in total plan for education, and real growth of per pupil expenditure, Assam has been ranked highest in the country, ahead of States like Maharashtra, Karnataka and Himachal Pradesh<sup>15</sup>.
- The State also spends a comparatively higher share of Gross State Domestic Product (GSDP) on elementary education. This proportion varies between 1 percent and 2.5 percent for most states, while for Assam it has been more than 3.5 percent in the nineties. In addition, education's share of GSDP has been increasing during the 1990s. However, the total size of GSDP, or even revenue expenditure, remains relatively small and hence, larger expenditure share does not necessarily mean high investment for elementary education. For instance, the size of GSDP in Haryana, a smaller State in terms of population, has been almost twice the size of Assam's GSDP.



<sup>15</sup> See Table E-2 in Education Appendix

## E. High School and Secondary Education

The post-independence period witnessed an impressive growth in the availability of educational facilities in the State at the secondary school level and at higher levels as well.

- Between 1950-51 and 1997-98, the number of high schools in the State recorded a more than ten-fold increase, which is no small achievement in an undeveloped state like Assam.
- In 1950-51 the State (including Meghalaya and Mizoram) had only 309 high schools, which increased to as many as 3,847 in 1997-98.
- Similarly, the number of colleges for general education in the State was 19 in 1950-51, which rose to 318 (including 70 junior colleges) in 1997-98.

### The Beginnings of Higher Education

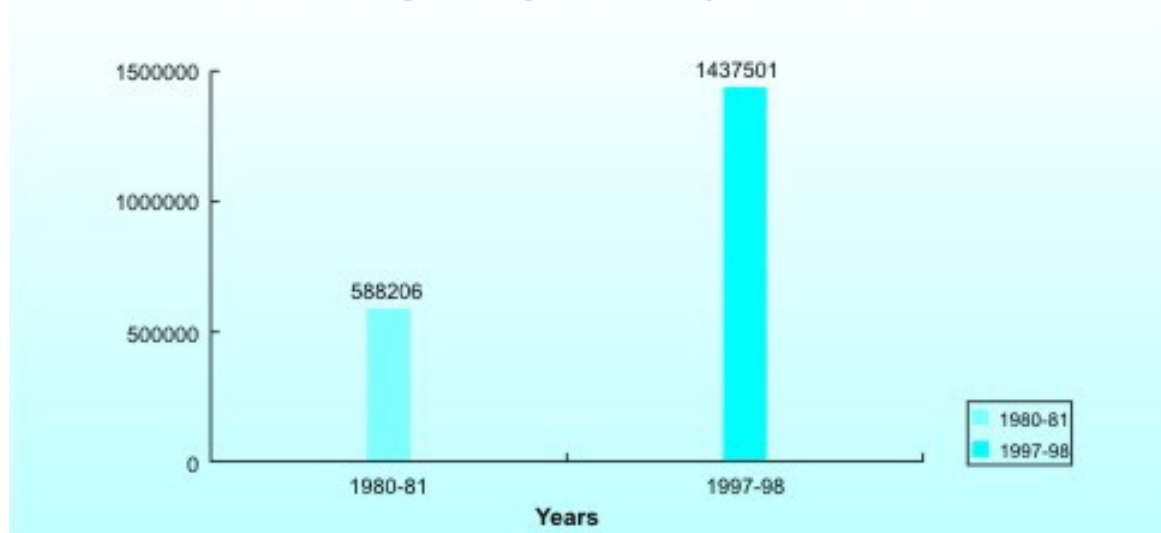
- The first Secondary school in Assam was established at Guwahati in June 1835 under the patronage of Major Jenkins, the then Commissioner of Assam. The school was called the Gauhati Seminary, and is now the Cotton Collegiate School.
- In 1841, another school was established at Sibsagar, largely to make English education available to the students in the Upper Assam area, particularly to the boys of the Ahom noble families.
- In 1878, there were 10 high schools in Assam, of which nine were under Government control and one was under private management.

### E1. Enrolment

Over the years, there has been an impressive increase in the enrolment of students at high and higher secondary level schools in the State.

- During 1980-81, the total enrolment in high and higher secondary schools was only 5,88,206, which recorded a more than two-fold increase and went up to 14,37,501 in 1997-98. An encouraging trend is that girl students account for about 45 per cent of the total enrolment, in high and higher secondary schools.
- The pupil-teacher ratio in the State has remained more or less static over the years. In 1997-98, the pupil-teacher ratio in the State was 26:1 for Higher Secondary Schools and 22:1 for High Schools.

Enrolment in High and Higher Secondary Schools, Assam



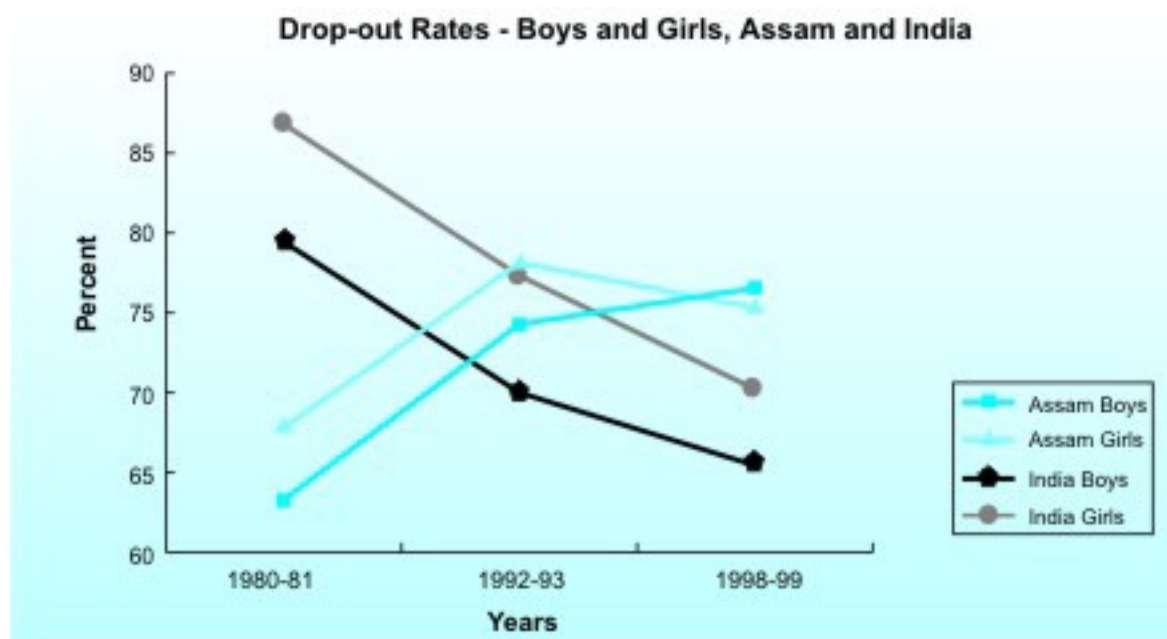


Secondary education is important because ultimately it is secondary education which determines the quality of all stages of education since it supplies teachers for elementary education and students for higher and professional studies. A closer examination of the high school situation brings out two very serious concerns, which require immediate action.

**Drop-out rates at the high school and higher secondary level continues to be high. What is disquieting is the fact that during the period of this rapid expansion, the drop-out rate for Assam has been increasing. During the same period, the drop-out rates for the country as a whole have been declining.** This implies that education attainments in Assam are thinning and the State is falling behind. The gap between Assam and the all India figure has widened in the nineties. In 1981-82, the drop-out rate in the Assam was lower than the all India average, but in 1998-99, the rates in Assam were more than 10 percent higher for boys and about 5 percent higher for girls, than the rates for the country.

**Percentage Drop-out Rates for Boys and Girls, Class X<sup>16</sup>**

	1981-82		1992-93		1998-99	
	Boys	Girls	Boys	Girls	Boys	Girls
<b>Assam</b>	<b>63.3</b>	<b>67.81</b>	<b>74.28</b>	<b>78.13</b>	<b>76.55</b>	<b>75.32</b>
<b>India</b>	<b>79.44</b>	<b>86.81</b>	<b>70.00</b>	<b>77.32</b>	<b>65.44</b>	<b>70.22</b>

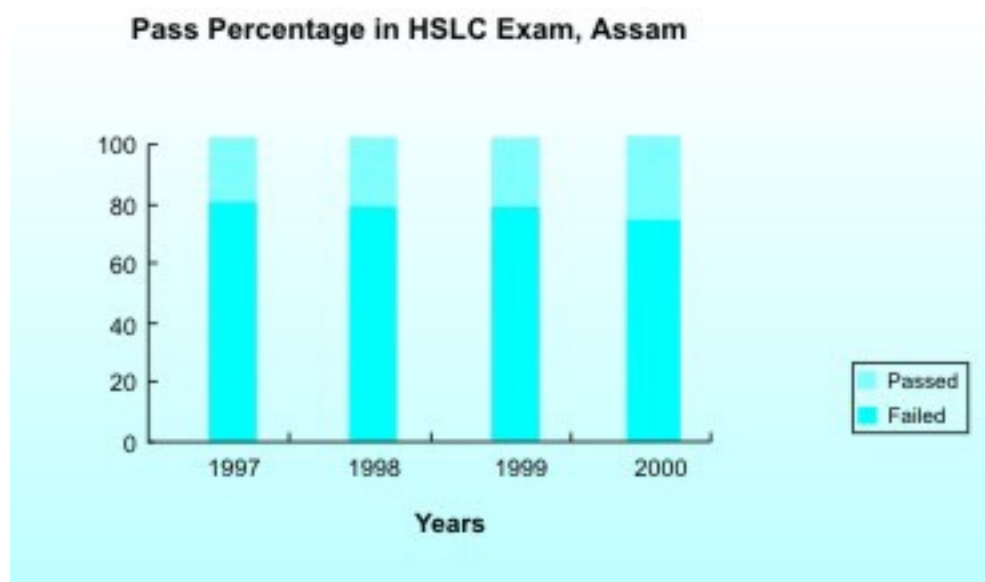


**Secondly, for those who do not 'drop out', the chances of finishing school successfully are less than 40 percent. The results of the high and higher secondary examinations show that while school expansion and enrolment has been rapid, the success rate is low.** In the four years, 1997-2000, the average percentage of students who passed the High School Leaving Examination (HSLC) was 32.66 percent only. The percentage of failure, in the HSLC examinations, which was as high as 71 percent in 1997 declined to 61 percent in 2000, but still continued to be very high.

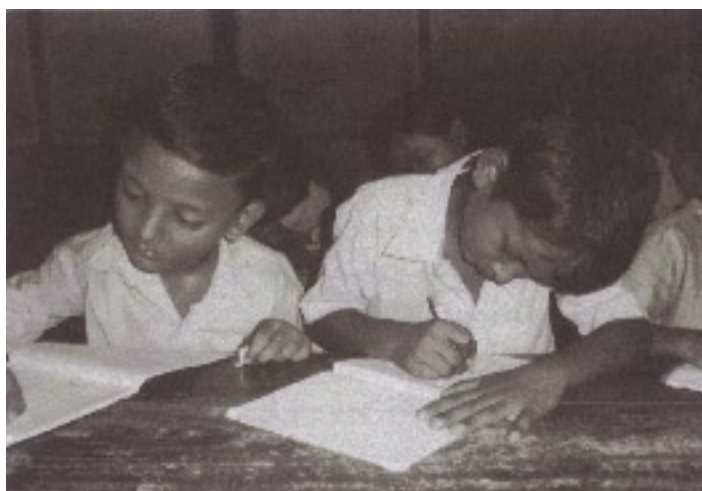
<sup>16</sup> Source: National Human Development Report, 2001, Planning Commission, New Delhi

In some districts the pass percentages were as low as 15 to 20 percent. Karbi Anglong and North Cachar Hills had the lowest success rates in 2000, less than 20 percent, even when the State's performance as whole improved substantially<sup>17</sup>. The low rate of success in examinations suggests that the system is not able to deliver the 'learning' required to pass. Apart from the 'waste of time' that education appears to be for the students who are unsuccessful, the low rates of success also reflect on the State. They imply that resources are 'wasted' - human resources, finances and infrastructure, as well as years of a student's life.

This is an issue that requires urgent attention.

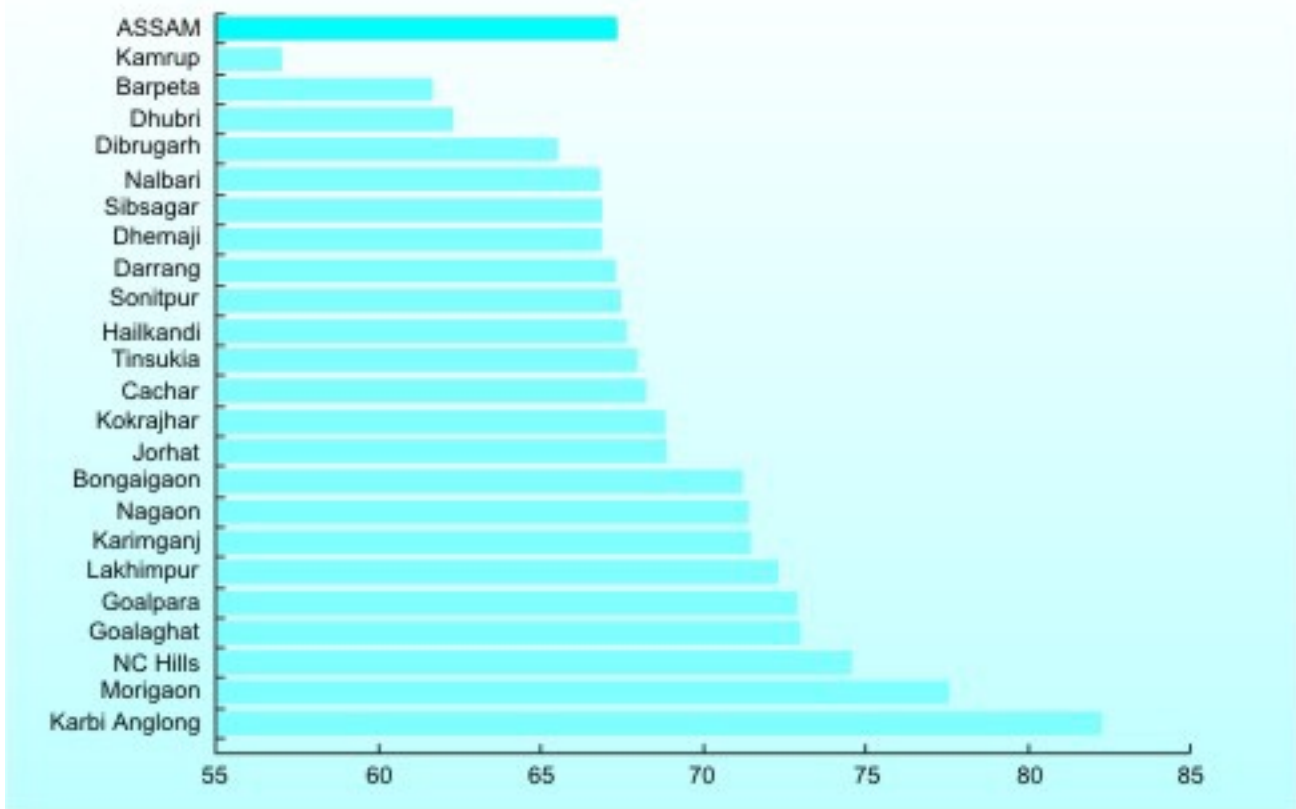


This high rate of failure is likely to lead to frustration among the unsuccessful students and create social problems and tensions. The emphasis on the implementation of a proper educational curriculum, imparting training for teachers, and adequate monitoring of the educational institutions may help in improving the situation. **These statistics urge that the focus shift from mere enrolment to learning levels and success rates. The issues relating to learning levels, quality of education, relevance of the curriculum, method of teaching are all equally relevant at the High and Higher Secondary level, as well.**



<sup>17</sup> See Tables E-4-7 in Education Appendix for details.

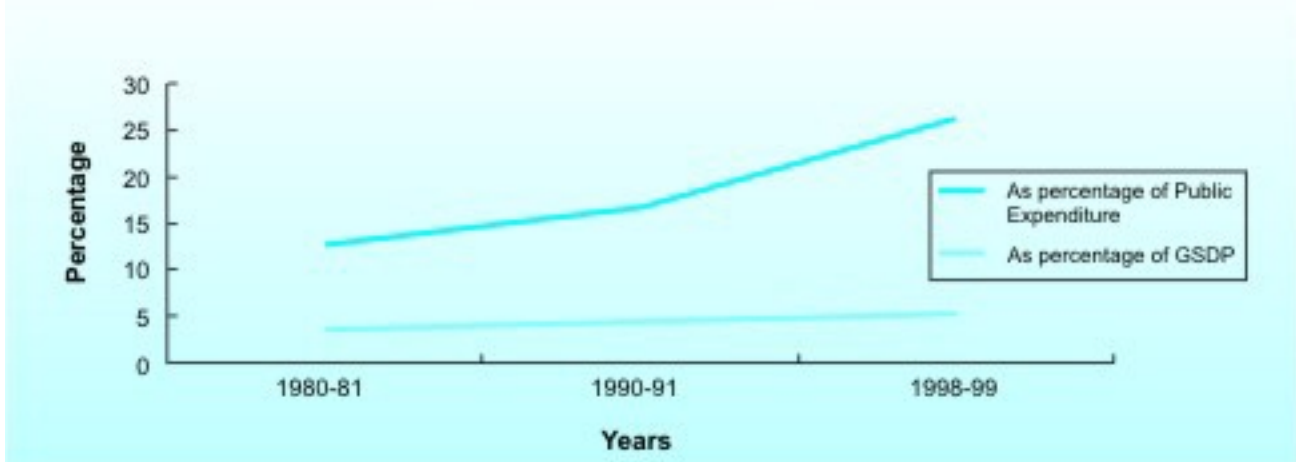
**Percentage of Students Failing the HSLC Examination, Average 1997-2000**



## E2. Expenditure on Secondary and Higher Education

While the expenditure on elementary education in Assam, as a proportion of the total budgeted expenditure is higher than the all India average, the expenditure on secondary education is substantially less than the all India average. In 1996-97, it was 24.93 percent compared to the all India average of 32.73 percent. About 10 percent of the education budget was spent on University and higher education, which compares favourably with the all India figure. States like Kerala, Tamil Nadu and Punjab spent in the range of 15 percent to 11 percent.

**Expenditure on Education, in Assam**



However the expenditure on the education sector as a whole has been extremely high in Assam in the last two decades. It has increased substantially from 12.76 percent of public expenditure in 1980-81 to 16.94 percent in 1990-91 and then went up to 26.34 percent in 1998-99. As a proportion of SGDP also, the share of education is high – it was 3.46 percent in 1980-81, and increased to 4.53 percent in 1990-91 and further to 5.23 percent in 1998-99.

## F. Literacy

Literacy is the first step in knowledge building and hence literacy indicators are important in the assessment of human development. Educational attainment can be assessed by a variety of indicators like enrolment, attendance, proportion of population having higher and technical qualifications etc. However each of these indicators captures only a part of the educational attainment. In the same manner, adult literacy, which is frequently used in calculating human development, may measure only a very superficial capacity to read or write. Nonetheless given this limitation, literacy is an important measure of progress.

In a country where at the time of independence the literacy rate was as low as 18.3 percent (for age 5 and above) in 1951, the current rate of 65.29 percent is commendable. In 1991-2001, for the first time since the Census of 1951, the absolute number of illiterates declined by almost 32 million, in the country. There continue to be large inter-State variations, with Kerala with over 90 percent literacy and Bihar with less than 50 percent – now the only State at less than 50 percent. The rates are significantly lower in sub groups, especially for scheduled tribes and scheduled caste populations, and for women in certain areas too.

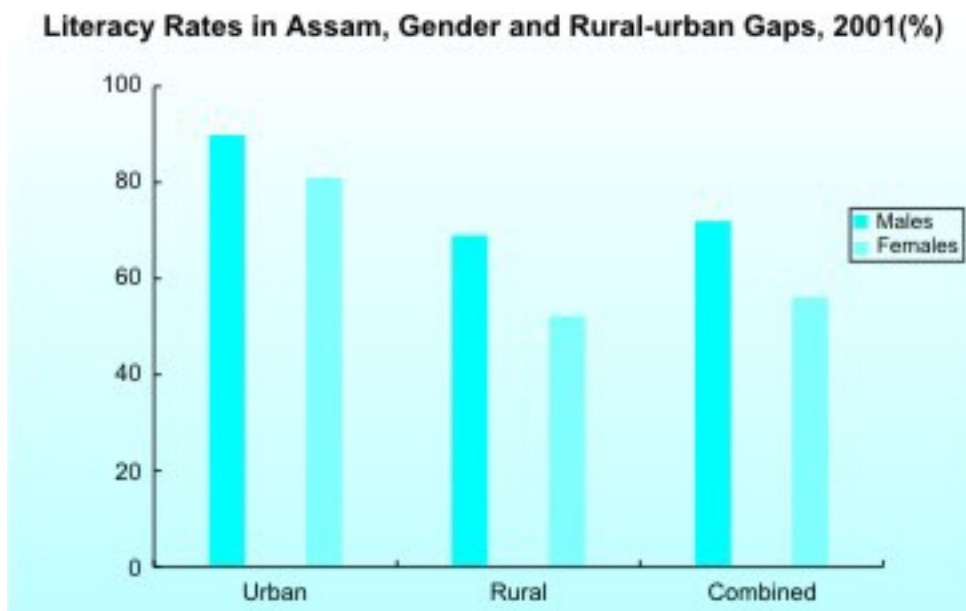
**Assam's achievements in literacy place it in the mid range, with a literacy rate of 64.28 percent, in 2001, up from 52.89 percent in 1991, and marginally below the national literacy rate.**

- **There is large gender gap**, the literacy rate being as much as 71.93 percent for men and more than 15 percent lower for women at 56.03 percent.
- **There is a large urban- rural gap as well.** Urban literacy is as high as 89.88 percent for males and 81.03 percent for females. The figures for rural areas are more than 20 percent less, at 69.02 percent for males and 52.25 percent for females<sup>18</sup>.

**The Census figures for 1991 and 2001 also show a wide divergence in literacy attainments across districts.**

- In Dhubri district, **more than half the population aged 7 years and above is still illiterate.** The situation in Kokrajhar is only marginally better.
- Even in districts like Sibsagar, Kamrup, Dibrugarh and Golaghat, which have registered high literacy rates (nearly 70 per cent and above), **about one third of the women are illiterate.**
- **Female literacy is significantly lower than male literacy in all the districts.**
- However the gender differential in literacy rates is higher in some districts like Kokrajhar, Barpeta, Nalbari, Darrang, Lakhimpur, Dhemaji, Tinsukia and even in Dibrugarh.
- In the hill districts also there was a close to 20 percent variation between the literacy rates for males and females in Karbi Anglong and only marginally less in North Cachar Hills District.

<sup>18</sup> Source: National Human Development Report, 2001, Planning Commission, New Delhi



**Literacy Rates in the Districts of Assam - 1991, 2001<sup>19</sup>**

District	Literacy rate 1991(%)	Literacy rate 2001(%)	Male Literacy rate 2001(%)	Female Literacy rate 2001(%)
Jorhat	65.51	77.91	82.76	72.54
Sibsagar	58.32	75.33	82.08	68.00
Kamrup	65.04	74.69	81.24	67.31
Golaghat	58.54	70.36	78.01	62.07
Dibrugarh	58.32	71.21	79.58	62.10
Lakhimpur	58.96	69.59	78.26	60.47
Cachar	59.16	68.42	76.51	59.85
N.C. Hills	57.76	68.59	68.11	59.40
Nagaon	54.74	62.28	68.52	55.57
Karimganj	54.71	67.21	73.87	60.09
Nalbari	55.90	68.08	77.12	58.40
Dhemaji	53.84	65.96	75.15	56.11
Hailakandi	53.07	59.84	68.47	50.65
Tinsukia	50.28	63.23	72.16	53.40
Morigaon	47.99	59.46	66.13	52.36
Bongaigaon	49.06	60.27	68.81	51.16
Sonitpur	48.14	60.29	67.64	52.36
Goalpara	46.81	58.56	61.90	51.40
Karbi Anglong	45.57	58.83	68.11	48.65
Barpeta	43.24	57.35	68.81	48.16
Darrang	42.00	55.92	64.32	49.95
Kokrajhar	40.47	52.55	61.90	42.65
Dhubri	38.38	49.86	61.90	42.64
<b>ASSAM</b>	<b>52.89</b>	<b>64.28</b>	<b>71.93</b>	<b>56.03</b>

<sup>19</sup> Source: Census of India, 1991, 2001

- The districts of Dhubri and Kokrajhar registered female literacy rates of 42.64 percent and 42.65 percent in 2001 as against 28.79 percent and 30.83 percent respectively, in 1991.

The increase in the literacy rate in the districts between 1991 and 2001 ranges from 10 to 14 percent except in Hailakandi, which recorded an increase of only 6.77 percentage points in the same period. The improvement in the female literacy rate in the districts, is more or less similar to that of the total literacy rate.

The low literacy rates and the wide divergence in this respect across districts may be due to the population composition of the districts and their geographical location and topography. Districts predominantly inhabited by immigrant Muslims, tea-tribes and tribals usually record low rates of literacy.

All segments of the population do not enjoy easy accessibility to school. Some of districts have riverine (*char*) areas and there may not be a school on the *char* (especially on the smaller *chars*), which means that children need to be taken to school. Similarly in the hill districts, students have to walk a long way to reach school. In these areas, the roads become very slippery during the rainy season and parents hesitate to send children out in the rain. Some villages are virtually cut off for a few weeks at a time. Districts with sizeable Scheduled Caste populations like Morigaon have also registered low literacy rates probably due to widespread poverty in this segment of the population.

## G. The Way Forward

The issues that constrain the education system in Assam chalk out the path for the future. The Government of Assam is committed to Universalisation of Elementary Education and to quality education. However, the Government is aware that unless micro level planning is undertaken and concerted efforts are made to improve quality, the infrastructure built up so far will be of little use.

- The Government is making all efforts to improve access to school. **School mapping exercises have begun to objectively identify the need for new primary schools or middle sections.** For children who are out-of-school, special plans to encourage their participation in regular schools are being prepared. Flexible alternative strategies for disadvantaged groups of children are under consideration including more bridge courses, residential camps and vacation camps, which will ensure participation.
- Proper infrastructure and adequate facilities are essential to keep children in school. Effective strategies for community involvement in school management are being implemented, appropriate to local situations. **The role of Panchayats in primary education and their linkages with traditional village based community organizations is being pursued actively.** The key to this exercise is decentralization and a willingness to let communities and field level educational administrators take decisions within an overall policy framework, which is now being done.
- The teacher is critical to the teaching learning process. **The recruitment of teachers on objective criteria of merit will ensure quality. In certain remote areas, it is advisable to recruit local teachers to combat the problem of teacher absenteeism.** Pre-service training could be made mandatory for recruitment of teachers. Placement of teachers in schools on recruitment and also their transfers should also be strictly based on the needs of particular schools. **The accountability of teachers, which is at present limited to the highly ineffective supervision machinery, could shift to parents, the community and its representative organizations, like school managing committees, VEC and Panchayats.**



- Besides teacher motivation and accountability, a crucial issue is the development of the curriculum and its relevance. **The Government is conscious of the need for flexibility in the curriculum and intends to provide space for incorporation of locally relevant materials and activities.** This will make education more meaningful for children, especially in certain areas where the lifestyle and culture may be very different from the mainstream. The process of preparation and publication of textbooks, workbooks and teachers' handbooks is being streamlined to ensure good quality and timely production and distribution of these materials.
- **Institutions like SCERT and DIETs (District Institute of Education and Training) are to be strengthened** and appropriate training, orientation, exposure visits are being arranged for their staff to enable them to understand the extent of contribution that they can make to the Universal Elementary Education (UEE) effort.
- Decentralization is a crucial requirement in all the aspects including planning for universalisation; alternative schooling; teachers' selection, placement and transfers; curriculum and supplementary material preparation; recurrent academic support to teachers and schools; effective community involvement, school supervision and monitoring. **Effective decentralization requires at least two major actions. First, a willingness and commitment of the higher level educational administration and political system, to delegate effective powers to the lower level. Second, the development of appropriate norms for various activities and creating conditions that ensure that the norms are followed strictly.**
- Investment in elementary education entails a strong political commitment in view of the very serious resource crunch the State is facing. **Since the last 10 to 15 percent of children who are out-of-school or are not attending school regularly belong to the poorest and most deprived groups, the entire UEE effort should be focused on these children.** Resources require to be better targeted and utilised, to ensure greater investment in the more deprived areas and population groups. **This positive discrimination is essential to address the gender and the rural – urban gap that is so apparent in educational attainments.**
- **A policy for the involvement of NGOs and resource institutions is being developed. This is vital if the community is to be a partner in the development process.**

The quality of elementary education remains a serious concern. The initiatives taken at the elementary stage are meaningful only if they culminate in better standards at the secondary and higher education stage, including in lower drop-out rates and improved success at the end of the school system. Learning is essential, if education is to mean more than just literacy, and if children are to be truly equipped for the future.

# Towards a Healthy Society





# Towards a Healthy Society

## A. The Commitment

High on the agenda of the Government is the provision of 'health for all'. It is a commitment and an objective that encompasses an array of actions and policies. Health is an indicator of well-being that has immediate implications for the quality of life as well as for productive capacities and capabilities. **To build a healthy society is to lay the foundations of a prosperous and dynamic society, and a contented and strong people. The Government of Assam is deeply conscious of its responsibility to the people of the State.**

**The Constitution of India is uncompromising on the issue of health and the people. It states in that 'the enjoyment of the highest achievable standard of health is one of the fundamental rights of every human being, without distinction of race, religion, political, economic or social condition'.** In a declaration adopted by the world community in 1978, and reflected in the Alma Ata declaration of the World Health Organisation (WHO), health is classified as a human right.

**The 'health' of a person, or of a group of people is a comprehensive concept that incorporates many dimensions, not just the absence of illness.** In fact, the Charter of the World Health Organization (WHO) explicitly defines 'health' as 'a state of complete physical, mental and social well-being and not merely the absence of disease and infirmity'. This is a definition that recognises the many dimensions of health and well-being, and one that requires action on many different fronts.

**The National Health Policy of 1983 and the approach of the Government of Assam reflect a multi-faceted approach to health care.** Such an approach was initially advocated by the Alma Ata declaration, and is notable for its principal focus on primary health care.

**Assam has been moving towards the attainment of the goal of 'health for all'. The State Government has emphasised not only the adequate provision of primary health care, but other pivotal concerns as well.** These include education and awareness of health issues, dissemination of information on prevention, hygiene and healthy practices, food security and nutrition, safe drinking water and good sanitation, maternal and child health and family welfare. Also taken up for State and schematic support are immunization against major infectious diseases, prevention and control of locally endemic diseases; treatment of common ailments and the provision of essential drugs.

**These are critical objectives and significant activities. To measure the progress and observe the impact of the 'health for all' strategy is, however, not an easy task.** In some cases for instance, on the long term goals of major reductions in morbidity and mortality, we need to look at data over a long period of time – perhaps even three or four decades - to evaluate the success of a particular approach. In other cases, especially where private and informal health care systems are involved, data may not be easily forthcoming.

**Information available from routine reporting is not adequate to give a comprehensive picture of the disease profile of the State and its people.** A combination of routine reporting, disease prevalence studies and some hospital-based data can help to assess the level of morbidity and mortality in respect of particular diseases. The State has established fairly efficient disease specific surveillance systems for some major diseases such as polio and leprosy. There is more work to be done in terms of strengthening of data and its availability, from the State health care network, and from other sources. **Beyond data collection and organisation, capabilities need to be built for analysis and its conversion to inputs for the planning framework.**

It is however possible to form an assessment of health status from key indicators such as infant mortality, crude birth rate, crude death rate, life expectancy and nutritional status. The accessibility<sup>1</sup> to health services tells us about the status of the health service delivery system. The quality of services being provided has a bearing on the utilisation of services, especially if alternatives are available<sup>2</sup>.

This chapter examines key health indicators such as life expectancy at birth (LEB), infant mortality rates (IMR), birth and death rates, and the morbidity pattern. It looks at issues of maternal and child health, and profiles communicable and non-communicable diseases prevalent in the State. An analysis is made of the medical infrastructure, its accessibility and utilisation. A separate section examines issues of sanitation and water supply, two areas that are closely related to health. Based on the analysis, insights into strategies for the future are provided, including issues of State and private investment in the health sector, changes in legal regulations and the implementation of schematic programmes.

## B. The Indicators

### B1. Assam – Growing Healthier

All over the world, development, the rise in incomes and the application of science and technology have led to people living longer and healthier lives. **India and Assam are no exception, and there is considerable evidence to support the fact that people in the State live longer than their parents did, and that health profiles have improved.**

The less heartening aspect is that the divergences in health status and access to health services are widening – between rich and poor nations, between richer and poorer States in India, and between advantaged and disadvantaged groups of people.

**Health indicators in Assam reveal inequity- between districts, and between income and other groupings. There is a rural – urban divide, and a gender gap.**

#### Health for All – The Objective

Translating the goal into indicators, the global strategy for Health for All by the Year 2000 (HFA 2000) set the following guiding targets:

- Life expectancy at birth above 60 years
- Infant mortality below 50 per 1000 live births
- Under-5 mortality rate below 70 per 1000 live births

<sup>1</sup> Accessibility refers not only to physical accessibility but also to the utilisation of services, especially by disadvantaged groups such as women, tribal communities and minorities.

<sup>2</sup> There are a very large number of unregistered and self-styled health service providers in the community. However the service provided by this segment has not been assessed in this report.

Of concern is also the fact that while there has been improvement in all the indicators, Assam's performance in the last decade has been lower than the average for the country.

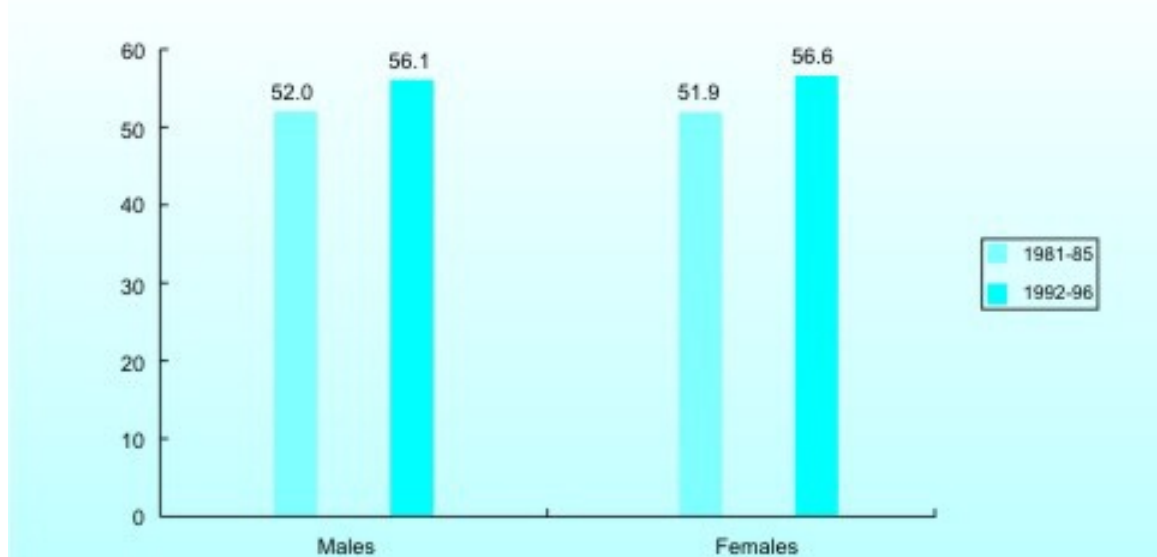
## B2. Life Expectancy at Birth (LEB)

Life Expectancy at Birth (LEB) is defined as the number of years a person may be expected to live when he is born, given the prevailing mortality rates in the population to which he belongs. In India, life expectancy has more than doubled in the last fifty years. From just around thirty years at Independence, it is now over 60 years. **The data for Assam shows trends similar to the rest of the country; it does, however, point to the fact that life expectancy in Assam is below that of the country as a whole, and is one of the lowest amongst major Indian States.**

In the 1970s men at birth could expect to live longer than women. This has since been reversed; women can now expect to live longer than men. This is a trend that began to take place initially in urban areas, but is now true of rural areas as well.

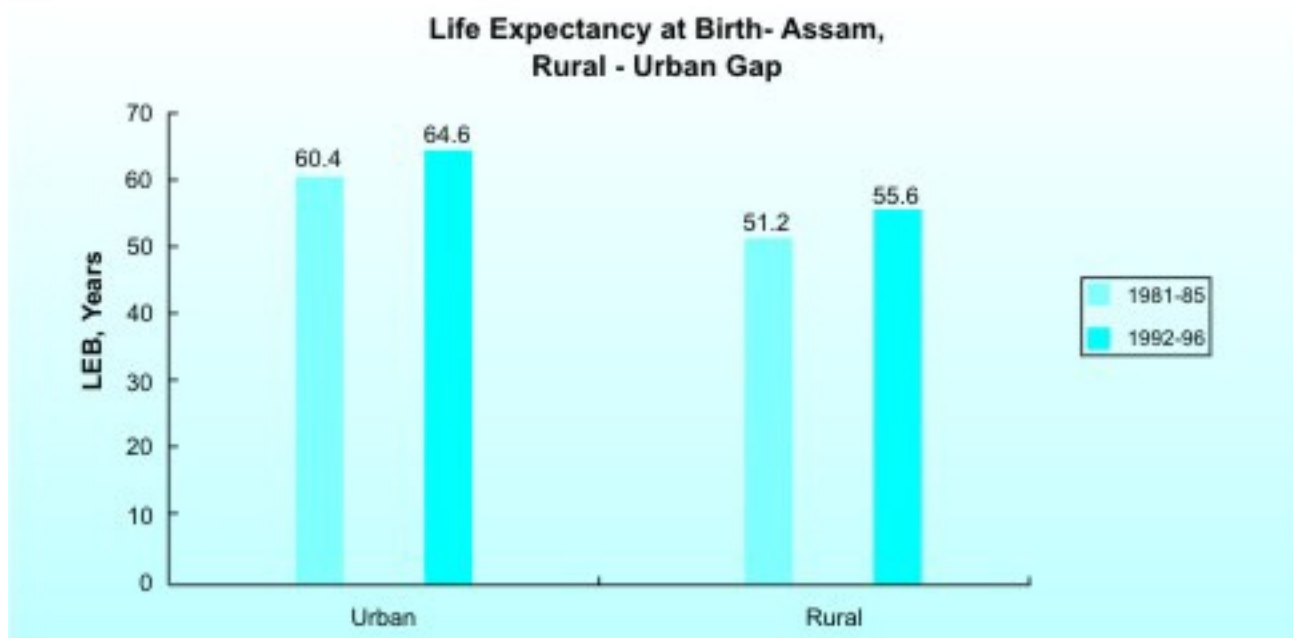
- The LEB in Assam is lower than the average LEB for the country as a whole<sup>3</sup>.
- Amongst the major States of India, LEB in Assam was the second lowest. The only major State with a lower LEB than Assam was Madhya Pradesh. In the period 1992-96, LEB was 56.2 years for Assam and 60.7 years for the country.
- The encouraging aspect in the case of Assam is the positive change in the LEB for women. For the first time, in the period 1991-95, women in Assam had a higher LEB than men (it was 56.1 for women and 55.7 for men). In 1992-96, LEB for women was 56.6 years while for men it was 56.1 years.
- There is still a very significant gap between the LEB for rural and for urban areas. In the period 1992- 96, the LEB in urban areas was 64.6 years. In rural areas it was almost ten years less, at 55.6 years.

**Life Expectancy at Birth, Assam - Gender Gap**



<sup>3</sup> Estimates of the Sample Registration System (SRS), for the period 1992- 96. Cited also in the National Human Development Report 2001, Planning Commission.





### B3. Persons Not Expected to Survive Beyond the Age of 40

Longevity is an important indicator of development. Longer life spans are associated with a healthier population, with a better environment in which people live, and with a population that contributes for more time and more productively to society and the economy.

Nation-wide it is true that people are living longer. The percentage of people not expected to survive beyond 40 years of age came down from 23 percent in 1981 to 18 percent in 1991. It was true then, and continues to be a fact however, that proportionately more males than females would cross the 40 year mark. Although survival rates have improved in Assam too, these continue to be below the national average.

- In Assam, in 1981 and in 1991, the percentage of people not expected to live beyond 40 years was higher than the national average. It was 24.9 percent in 1981 and 21.8 percent in 1991.
- The rural-urban gap in Assam was high in 1981. More than a quarter (25.8 percent) of rural people were not expected to survive beyond age 40, compared to a little over a sixth (16 percent) of the urban population. In 1991, the percentages had dropped marginally, but the rural-urban gap persisted. The percentage rates were 22.5 percent (rural) and 14.4 percent (urban).
- Males have a better chance of surviving beyond 40 years of age. While this difference exists at the national level too, the gender gap was actually a little less in Assam. The difference at the all India level was more than two percentage points, while in Assam the difference was slightly less, (22.5 percent for women, 22.1 percent for men).

### B4. Infant Mortality Rate (IMR)

The infant mortality rate is defined as the probability of a child dying before he attains the age of one year, and is calculated per 1000 live births.



Through the 1990s there was a secular decline in the Infant Mortality Rate in Assam<sup>4</sup> from 81 per 1000 live births (1991) to 76 per 1000 live births by the end of the decade (1999). This is a positive development.

There is however cause for concern. There is a growing divergence between the IMR status of Assam, and that of the rest of the country and a substantial rural-urban gap within Assam as well. **Across districts there are major differences; the data shows that while some districts have IMR rates lower than the national average and are therefore performing very well, there are others with high IMR rates<sup>5</sup>.**

- The IMR for the country as a whole was 80 per 1000 live births, a figure that declined to 70 per 1000 live births by 1999. At the beginning of the decade Assam was only one point away from the national average figure. At decade's end, the difference between the IMR for the State and that of the country was as much as six points.
- There has been little change in the IMR at all in the period 1996-99. This may be attributable to high perinatal mortality and stillbirths, (both of which remained unchanged) which contribute significantly to IMR.
- The rural-urban gap is extremely high. Urban IMRs were less than half the rural IMRs, in the entire period.
- The IMR for urban Assam is substantially lower than the all India average (36 per 1,000 as against 44 per 1000 for India), while in rural Assam the IMR is higher than that for rural India (79 per 1000 against 75 per 1,000 for India) in 1999.



<sup>4</sup> There are differences in the estimates for IMR derived from NFHS-1, NFHS-2 and SRS data, especially for estimates relating to longer time periods. There is therefore a need to be cautious while interpreting the data. The Government is taking steps to improve the quality, periodicity and accuracy of the data.

<sup>5</sup> Estimates from Sample Registration System (SRS) data

Infant Mortality Rates: Rural - Urban Gaps, 1991



## B4a. Infant Mortality Rate: variations at the district level

District wise Infant Mortality Rates in Assam<sup>6</sup>

District	Infant Mortality Rate
Jorhat	47
Dibrugarh	51
Golaghat	61
Tinsukia	73
Sibsagar	75
Karbi Anglong	76
Kamrup	77
Sonitpur	77
Kokrajhar	78
Morigaon	88
Nalbari	96
Nagaon	97
Cachar	97
Hailakandi	99
Barpeta	101
Goalpara	106
N.C. Hills	108
Darrang	111
Karimganj	111
Lakhimpur	112
Dhemaji	114
Bongaigaon	122
Dhubri	128
<b>ASSAM</b>	<b>92</b>

<sup>6</sup> Source: Census of India, 1991

- There were extensive variations in the IMR across districts in Assam.
- At the extremes were the districts of Dhubri (128 per 1000 live births) and Jorhat (47 infant deaths per 1000 live births) – a difference of over 272 per cent.
- Three districts, Jorhat, Dibrugarh and Golaghat had substantially lower IMRs than the others.

#### B4b. Infant Mortality Rate: variations in under - 5 mortality

The rural-urban divide is also apparent in the data on under-5 mortality, which measures the probability of dying before the fifth birthday. **Under-5 mortality is substantially higher in rural areas, a fact corroborated by National Family Health Survey (NFHS) - 2 data.** The under-5 mortality rate is 81 deaths per 1,000 live births for rural children, and 55 deaths per 1,000 live births for urban children. These figures relate to the ten-year period preceding the survey, which was carried out in 1999.

**Not surprisingly there were other significant correlations, most tending to confirm the view that children of disadvantaged parents are most at risk. Such disadvantaged groupings include illiterate mothers and low-income households.**

The IMR is dependant on many factors. These include the health status of women, antenatal and postnatal medical care, access to medical facilities, and the availability of professional medical practitioners. Ignorance and social factors also play an important role. Early marriage and the preference for male children are contributory factors.

In Assam, underdeveloped infrastructure is another reason for high IMRs. This refers not just to facilities for established medical care, but also the inadequacy of good, all weather transportation and communications. The inability to move basic medicines easily, especially at certain times of the year, and the frequent occurrence of natural calamities such as floods, are impediments to better health service provisioning.

The district with the highest IMR, Dhubri, is a case in point. It has a high proportion of its population living on riverine islands (*chars*) and in flood prone areas. Communication and transportation links are poor, and it is extremely difficult to build and maintain even semi-permanent infrastructure. The fact of a high IMR for Lakhimpur district, despite relatively good income and education indicators is also illustrative. Lakhimpur district is deficient in infrastructure because of the terrain, floods and its remote location. North Cachar Hills district with extremely poor health indicators is another case in point.

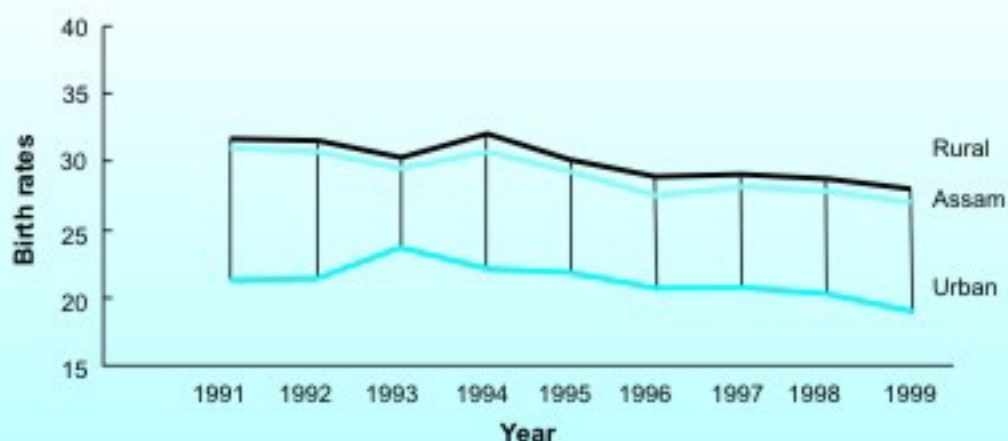
Given the fact that the IMR is an important indicator that encapsulates the overall health status of a community or an area, there is an important pointer here for policy planners in Assam. **A special focus on the relatively disadvantaged districts by the health system as a whole could pay dividends for the health status of the State.**

#### B5. Crude Birth Rate (CBR)

While there is evidence to confirm that the Crude Birth Rate (CBR) has declined significantly in Assam, over the last few decades, the CBR in Assam continues to be higher than the national average.

The Sample Registration System (SRS) data shows that the CBR for Assam decreased in the period 1991-99 from 30.9 (per 1000 population) to 27.0, while in the country as a whole, the CBR declined from 29.5 to 26.1 (per 1000 population) in the same period

Crude Birth Rates- Assam, 1991-99



In Assam, the CBR is much higher in rural areas as compared to in urban areas<sup>7</sup>. This is true of the country as a whole as well.

## B6. Fertility Rates

The Total Fertility Rate (TFR) refers to the number of children that would be born per woman if she were to live to the end of her childbearing years and bear children at each age in accordance with the prevailing age specific fertility rates.

- The total fertility rate (TFR) estimated from SRS data was 3.3 children per woman in 1995-97, a substantial decline from 1980-81, when it was as high as 4.1 children. The TFR for all India was 3.4 in the 1995-97 period
- Estimates made by NFHS-2, put the TFR at 2.3 children per woman. The decline over the 5-year period since NFHS-1, is 35 percent, which is much higher than the decline as per SRS estimates. The NFHS-2 has probably under-estimated the TFR in Assam. In fact the report suggests as much, because it feels the decline of 35 percent is not matched by a corresponding increase in the use of contraceptives, which remained steady at 43 percent. The absence of an upward trend in contraceptive use is inconsistent with a sharp

### Inter District Variations in CBR - A Survey by Taleem Foundation

In 1999, a Rapid Household Survey was conducted by an NGO, the Taleem Research Foundation under the Reproductive Child Health (RCH) project of the Ministry of Health and Family Welfare, Government of India. Covering ten districts of the State, the findings of the survey confirm the fact of large inter-district variation in the Crude Birth Rate, ranging from 17 per 1,000 to 48.5 per 1,000 in the surveyed districts.

In addition to an estimation of the CBR, the survey also assessed birth orders. (The birth order refers to the number of births and is another way of measuring fertility.) The distribution of births indicates that 13.1 to 31.4 percent were first order births, 13.1 to 26.2 percent were second order births and 42.6 to 73.7 percent were higher order births.

In Hailakandi, the CBR was as low as 17, but more than 50 percent of births were of third or higher orders. Similarly North Cachar Hills district has a CBR of 21.2, but more than 73 percent of births were of the third or higher order.

<sup>7</sup> Source: SRS, RGI, India Bulletin, April, 1999

decline in fertility. A part of the bias may occur on account of age misreporting, a problem not atypical of retrospective surveys such as the NFHS<sup>8</sup>.

- As is to be expected, there is a substantial rural-urban gap in fertility rates as well. The TFR for urban women was 2.1 (lower than the all India figure of 2.5 for urban women), while the rural TFR was 3.5 (marginally lower than all India rate of 3.7).

### B6a. Fertility and Infant Mortality Rates among tea garden workers of Assam

Data on Tea Garden workers in Assam<sup>9</sup> highlights the fact of increasing divergence between population groups, even as indicators at the macro level begin to converge to higher levels.

- The Crude Birth Rate among tea garden workers is 35.19 compared to 30.9 for Assam (1991) and 29.5 for India (1991).
- The infant mortality rate is 154.45 (per 1,000 live births) compared to 81 (per 1,000) for Assam and 80 (per 1,000) for India. As many as 70.72 percent of the couples interviewed have experienced three or more live births.
- More than one-third of the couples reported one or more deaths of their infants, more than one tenth of the couples have had stillbirths and 7 percent of the women have experienced miscarriages.
- The Total Fertility Rate is 3.63 compared to 3.53 for Assam and 3.39 for India, in 1991.
- More than 90 percent of the wives and two thirds of the husbands are still illiterate.
- The mean age of marriage of females is 16.8 years compared to 19 years in India and 21.4 years for Assam.

**The data is illustrative of the fact that the health system needs to focus on relatively disadvantaged groups.**

### B7. Crude Death Rate

The Crude Death Rate (CDR) is another indicator of the health status of a population. **The death rate in Assam declined substantially in the early nineties. In the mid 1990s the decline came to a virtual standstill and the rate even showed a marginal increase.**

- The State has witnessed a decreasing trend in the Crude Death Rate during the 1990s, in rural as well as urban areas. From 11.5 deaths per 1000 in 1991, the CDR came down to 9.7 deaths per 1,000 in 1999<sup>10</sup>. In the same period, the decline in the national CDR was from 9.8 deaths per 1000 to 8.7 deaths per 1000.<sup>11</sup>
- The SRS data shows that after a fairly rapid fall in the early 1990s, there was no change in the death rate in Assam for three years (1995-97) when the CDR remained constant at 9.6 (per 1000 population). Thereafter it increased to 10.0 deaths per 1,000 in 1998 and then declined to 9.7 deaths per 1,000 in 1999. The reasons for this are not very clear.

<sup>8</sup> See Table H-3 in the Health Appendix for a comparison.

<sup>9</sup> This study was conducted by Dr. Santanu Barthakur of Dibrugarh and the analysis is based on information collected from 550 (for fertility) and 532 (for infant mortality) resident married females, randomly taken from 20 purposively selected tea gardens of the Dibrugarh district

<sup>10</sup> Source: SRS data

<sup>11</sup> See Table H-4 in the Health Appendix. Data from NFHS-2 (covering roughly 1997-98) shows an estimated average CDR of 9.5 deaths per 1000. This rate is only slightly lower than the NFHS-2 CDR estimate, at the all India level, that is at 9.7.

- As in the case of the CBR, the CDR in rural Assam is substantially higher than that in urban Assam, and the same is true for rural and urban India.
- In case of rural Assam, there was a distinct increase in the death rate after 1994, and it continued to rise for five years, till 1999, when it started declining again but was still higher than the rate recorded in 1994. This is cause for concern.
- In most countries, male death rates are higher than female death rates, at nearly all ages. South Asia has been an exception and has had higher death rates for females over a large part of the life span. **In this respect, the Crude Death Rates in Assam show mixed trends.**
- According to the SRS mortality estimates for 1997, females have higher mortality than males, except at age 60 and over, when males have slightly higher mortality than females. This is indicative of gender inequity<sup>12</sup>.
- A comparison of age specific deaths over NFHS-1 and NFHS-2 showed that the death rates declined substantially in the youngest age group (under 5 years) and increased substantially at ages 60 and above. In the other age groups, there was not much change.

### C. Impacting on Health: The Trends

An analysis of the health status must go beyond indicators, and must take into account trends in nutrition, morbidity, reproductive and maternal care, the provision of sanitation facilities and safe drinking water.

#### C1. Nutrition and Health

Nutrition is increasingly recognised as a crucial determinant of health. An analysis of the nutritional intake of children, the adults of tomorrow, is important to assess their well-being and health. Detailed studies were carried out by NFHS-1 and NFHS-2. The main findings of these studies are -

- Observing widely accepted demographic characteristics such as height for age, weight for age and weight for height, the surveys found that both chronic and acute malnutrition were very common among the studied children. NFHS-2 shows that 36 percent of children under 3 years of age are underweight and 50 percent are considered short for their age or stunted. This reflects the prevalence of chronic malnutrition, over a period of time.
- The proportion of severely undernourished children is also very high - 13 percent according to weight for age and 34 per cent according to height for age.
- In addition, wasting<sup>13</sup> is evident in Assam, affecting 13 per cent of children under 3 years of age. The proportion of children under 3 years of age, who are under weight decreased from 49 percent in NFHS-1 to 36 percent in NFHS-2.
- The proportion of severely underweight children also decreased from 18 percent to 13 percent. However the prevalence of stunting remained the same, at 50 percent. The prevalence of severe stunting increased from 24 percent in NFHS-1 to 34 percent in NFHS-2.



<sup>12</sup> However, the NFHS-2 shows a different pattern, with males having higher mortality than females at all ages, except 15-49 and 60 and above. In most countries male death rates are higher than female death rates at all ages.

<sup>13</sup> Wasting refers to children who are found to be below the median weight for height -body mass in relation to body length- they are considered to be too thin or wasted



- Undernourishment is substantially higher in rural areas than in urban areas. As is to be expected, literacy and income are positively correlated to nutrition levels. Children of illiterate mothers tend to have higher levels of under nutrition than those whose mothers are literate.
- Child nutrition is positively related to mother's nutritional status. Children from households with low standards of living are more likely to be underweight, stunted and wasted. Overall girls are slightly more likely than boys to be underweight but boys are more slightly more likely than girls to be stunted or wasted.
- Breast-feeding is declining with changing life styles and attitudes. The introduction of supplementary food before four months of age may put infants at risk of malnutrition, because other liquids and solid foods are nutritionally inferior to breast milk. Exposure to other liquids and solids may also increase the child's risk of getting diarrhoea. The NFHS-1 observed that on an average about 65 percent of infants under 4 months of age are given only breast milk. This figure dropped to 43 per cent in NFHS-2, less than the national level of 55 percent. However NFHS-2 states that breast-feeding continues for a long time, and 87 percent of children are being breast-fed at 20-21 months of age and breast-feeding may continue even in the third year of life - 55 percent of children aged 30-31 months are still breast-fed.

### Nutrition Status of Children

A UNICEF sponsored study conducted in Assam in 1996, on the nutritional status of children in the 1-5 year age group, found that 8 percent of children were severely undernourished whereas, 33.5 percent were mild to moderately undernourished in rural Assam.

In urban areas, 7.54 percent of children had severe malnutrition while 29.84 per cent had mild to moderate undernourishment.

3.85 percent children in the 2 to 5 age group in rural areas had vitamin A deficiency which leads to night-blindness. In urban areas, this figure was substantially lower, at 0.6 percent.

## C2. Morbidity Pattern

Morbidity refers to the 'state of ill health'. It is increasingly used as an indicator of the well-being of people. There is some evidence to show that 'morbidity and mortality patterns may often run counter to each other'<sup>14</sup>. Data on the prevalence of morbidity is difficult to collect and surveys rely on reporting by respondents. In many cases the findings are not necessarily corroborated by clinical data. Some diseases carry a social stigma and may not be reported at all.

**According to the information collected during the 52<sup>nd</sup> round of the NSSO, 5.5 percent of rural people reported suffering from an ailment in the 15 days preceding the survey. Females reported higher ailments than men.** Both rural and urban Assam had a high proportion reporting ailments.

Both NFHS-1 and NFHS-2 did collect fairly detailed information but as stated there may be considerable under-reporting due to a variety of reasons and some diseases may also be wrongly reported. NFHS-2 showed that among the most common illnesses in Assam, asthma was fairly prevalent, followed by malaria, jaundice and tuberculosis.

**There is also a body of evidence to indicate that water-borne diseases are common, and show a steep rise during periods of flood, in itself a frequent occurrence in Assam. The emergence of 'life style' diseases is another dimension, one that health care systems in the State are increasingly contending with.**

<sup>14</sup> For example Kerala, which has the lowest mortality rate, has a high incidence of morbidity. (Source: NHDR, 2001, Planning Commission)

### C3. Reproductive Health and Maternal Care

#### a) Family Welfare

The NFHS-2 has provided data on the extent of knowledge and use of family planning methods amongst currently married women.

- 43 percent of currently married women of age 15 - 49 had used some method of contraception, 27 percent used modern methods and 16 per cent traditional methods.
- A comparison of NFHS-1 and NFHS-2, shows that contraceptive use has remained unchanged at 43 percent.
- Of concern is evidence of a decline in contraceptive use in urban areas from 63 percent to 53 percent over the six-year period between the two surveys.
- Female sterilisation still remains the most popular modern method of contraception. A majority of couples in Assam, obtain their contraceptive services from a public sector source (64 percent). Private medical institutions provide services to another 32 percent of users, 2 percent obtain their supplies from a shop and 1 percent from other sources.
- The NFHS-2 also indicates that only 13 percent of the users were informed by the service provider about the side - effects or other problems associated with the use of a particular method, but 84.8 percent received follow-up service after the acceptance of any method.

#### b) Maternal Care

Maternal and Child Health form an integral part of the Family Welfare Programme in Assam, a development initiated from the Fifth Plan onwards and one that has contributed to conceptual clarity and operational integration. The Child Survival and Safe Motherhood Programme initiated in 1992-93 continued this process of integration and in 1996, safe motherhood and child health were incorporated into the Reproductive Child Health programme. The programme seeks to integrate maternal health, child health and fertility regulation interventions with reproductive health programmes for men and women.

##### Demographic Goals for 2010

- 80 percent of all deliveries to be in institutions
- 100 per cent deliveries to be attended by trained personnel
- Maternal mortality ratio reduced to below 100 per 100,000 live births

In rural Assam, these services are provided by the Primary Health Centres (PHCs) and sub centres. In urban areas they are provided by the municipal and government hospitals, as well as by private nursing homes and hospitals. Safe motherhood is reiterated in the National Population Policy, 2000 and is among the national demographic goals for 2010.

The NFHS-2 and Taleem Research Foundation have analysed issues relating to maternal care services. They have highlighted the high inter-district variation in access and use of medical services. The number of deliveries in hospitals continues to be low, less than 18 percent according to NFHS-2, while the figure for India was 33.6 percent

- Only about 60 percent of expectant mothers received any kind of ante-natal care<sup>15</sup> (ANC). The doctor accounts for 51.5 percent of ANC check-ups, and other health workers for the balance<sup>16</sup>.
- Only 17.6 percent of the deliveries took place in health facilities or institutions, with 11.7 percent being in government hospitals. Institutional deliveries are highest for first births and lowest for births of order six or higher.
- The proportion of births that took place in health facilities or institutions is four times higher in urban areas than in rural areas.
- Only 52 percent of mothers received the required tetanus toxoid (TT) vaccinations and only 55 percent received adequate iron and folic acid (IFA) tablets.
- The study conducted by Taleem Research Foundation found that women who have had three or more ANC check-ups, ranged between a low of 7.8 percent in Nagaon district, to 38.2 percent in Kamrup. Between 32.4 percent to 66.1 percent of mothers had at least one ANC check-up, in different districts.
- Pregnant women who have had two or more TT injections (as recommended by the RCH programme) ranged from only 12.4 percent for North Cachar Hills district, to an impressive 66.3 percent in Darrang district.
- Institutional deliveries ranged from 5.6 percent in Nagaon to 32.6 percent in Kamrup, according to the same study.

**The situation in the reproductive health care area has certainly improved since NFHS-1, but the gains have been very limited. Since the percentage of institutional deliveries is low and that by untrained hands is high, it is not surprising that maternal mortality is still high, at 401 per 100,000 live births, compared to an all India figure of 408 per 100,000 live births, in 1997.**

## D. The Disease Profile

### D1. Vaccine Preventable Diseases

Definitionally preventable, the continuing prevalence of diseases reflect on systemic, coverage and outreach inadequacies; these are shortcomings that can and should be addressed by health care systems. An effective system of vaccination can contribute pivotally to the health and longevity of children, the adults of tomorrow. Smaller investments today can reduce the need for much bigger investments in health care facilities tomorrow. **Despite the fact of expanding coverage and administrative effort, there are gaps in the extent, periodicity and overall coverage. These gaps are more marked for vulnerable and relatively disadvantaged communities and groups.**

The Universal Immunisation Programme initiated in 1985, sought to cover 85 percent of all infants against the six vaccine preventable diseases by 1990. The six diseases are polio, tetanus, pertussis (whooping cough), diphtheria, childhood TB and measles.

After an initial spurt in immunisation in the early nineties, the immunisation coverage data for Assam shows a reduction in the number of children who were immunized in the 1996-99 period. In most years after the mid-nineties, the achievements were less than the targets that had been set.

<sup>15</sup> The RCH programme recommends at least three ante-natal check -ups

<sup>16</sup> See Table H- 5 in the Health Appendix for details

The findings of the NFHS–2 indicate that the coverage is very low and these vaccine preventable diseases are still prevalent, with the exception of Polio.

- Children who have received BCG, measles and three doses each of DPT and polio vaccine were considered to be fully vaccinated. Only 17 percent of children in the age group 12 –23 months were fully covered, and 33 percent had not received any vaccination at all.
- Coverage rates for each individual vaccination are higher than the percentage fully vaccinated, which indicates that not all children who begin the vaccination series go on to complete them. The delivery system is clearly inadequate and there has actually been a decline in full vaccination coverage since NFHS-1 when the rate was 19 percent.
- Besides, a very large proportion of children who received early vaccination dropped out of the immunisation programme. The Polio eradication programme also had very low coverage in Assam, the percentage of children receiving at least three doses of the vaccine being lower in Assam than in any other state except Meghalaya, where the percentage was even lower.
- The proportion of children who did not receive any vaccination at all, however declined substantially from 44 percent in NFHS-1 to 33 percent in NFHS-2.

#### Vaccination Coverage - 1992-99 (%)<sup>17</sup>

Survey	BCG	Polio-0	DPT-3	OPV-3	Measles	All
NFHS-2 (1998-99)	53.5	3.1	37.5	37.9	24.6	17.0
NFHS-1 (1992-93)	48.2	1.2	31.0	32.7	25.8	19.4

## D2 Other Childhood Diseases

### a) Diarrhoea

Diarrhoea is one of the most common causes of death among children in Assam. The incidence is high because of the poor quality of drinking water. In the case of infant mortality, it is estimated that close to a third of deaths occur due to diarrhoea. Hospital data shows about 20 percent of all under-5 deaths of children who have been admitted in the hospital is also due to diarrhoea. NFHS-2 has indicated that at a given point of time about 8 percent of children in Assam under three years of age suffered from diarrhoea, and the number of children who were given any type of oral rehydration solution (ORS) was only 53.8 percent.

### b) Acute Respiratory Infection (ARI – Pneumonia)

Acute Respiratory Infection (ARI), primarily pneumonia, is a major cause of illness and child mortality. Early diagnosis and antibiotic treatment can prevent a large number of pneumonia deaths. NFHS-2 found that 18 percent of children under the age of three in Assam suffered from ARI at some time during the two-week period before the survey. 'ARI was found to be slightly more prevalent among boys than girls and much more prevalent among children living in rural areas than in urban areas. Alarming, hospital statistics show that 18-20 percent of deaths in children are due to acute respiratory infections.

<sup>17</sup> Source: NFHS-1, NFHS-2

### D3 Anaemia in Women and Children

Anaemia (characterised by a low level of haemoglobin in the blood) has detrimental effects on the health of women and children. It may become the underlying cause of maternal death, antenatal loss and perinatal loss. Anaemia results from a nutritional deficiency of iron, folate, vitamin B<sub>12</sub> and other nutrients. Anaemic expectant mothers are at risk of premature delivery and low birth weight. Early detection of anaemia can help prevent complications during childbirth and child development problems. Anaemia in children is associated with impaired cognitive performance, motor development, coordination, language development and scholastic achievement, as well as increased morbidity from infectious diseases. Iron deficiency is a common cause of anaemia.

In India, anaemia affects an estimated 50 per cent of the population. Assam has the highest incidence of anaemia amongst all the Indian states, according to the NFHS-2. **The data shows that about 70 percent of women in Assam have some degree of anaemia. Mild anaemia was found in 43 percent of the women and moderate anaemia in 26 percent of women. Only 1 percent was severely anaemic.**

The prevalence of anaemia is relatively higher for rural women compared to urban women. It is lower for pregnant women than for other women. The provision of iron and other supplements to pregnant women has 'undoubtedly reduced the overall prevalence of anaemia in pregnant women.' Among children, 63 percent have some degree of anaemia.

### D4 Communicable Diseases

The key initiatives of the State Government for prevention of communicable diseases have derived their resources and content substantially from Central Sector Schemes. There are national programmes for the control of Malaria, Tuberculosis, Leprosy and AIDS. Malaria and tuberculosis have a higher incidence among males, and malaria is more prevalent in rural areas than in urban environments.

#### a) Malaria

**Malaria has been, and continues to be, a major problem. It is a disease that thrives in the terrain and climatic conditions of the State.** Impediments to natural drainage and growing urban spread have resulted in the proliferation of bodies of stagnant water. In Assam the disease is widespread and occurs throughout the year. In the monsoon, due to favourable climatic and environmental conditions for mosquito breeding, the incidence goes up significantly. According to the NFHS-2 (1996-98), the incidence of malaria has gone up slightly from NFHS-1 (1992-93). The survey also states that rural residents are more likely to suffer from malaria than urban dwellers and the reported prevalence is higher for males than for females, in both rural and urban areas.

**Despite initial successes of post-Independence malaria control programmes, and subsequently by the National Malaria Eradication Programme, the disease has not been controlled for any significant length of time.** The successes have been temporary and not sustained. The re-emergence of the disease, even in areas where it had not been evident for decade long intervals, is partly attributable to resistant breeds of mosquitoes.

**The National Anti-Malaria Programme (NAMP) is the key schematic mechanism of the State Government to combat malaria.** It provides for an early warning system, and an action plan that includes detection through surveillance, passive case detection through malaria clinics, formation of rapid response teams at district

headquarters to contain disease outbreaks, fever treatment depots and drug distribution centres through NGOs and community organisations. Spraying, fogging and other anti-larval measures are also undertaken to control malaria.

**Despite these measures, the incidence of malaria continues to be high. The containment of malaria should continue to receive the highest attention of the health care system.**

### b) Tuberculosis

Tuberculosis is an infectious disease that affects the lungs and other body tissues. **According to the NFHS-2 the incidence in Assam is 710 per 100,000 of population, which is higher than the national estimate of 544 per 100,000. This figure is also higher than the level reported in NFHS-1, where it was 640 per 100,000.** The prevalence is reported to be higher in rural areas than in urban areas and a higher incidence is reported for men than for women. The probable reason for higher prevalence in men is that men are more likely to come in contact with others suffering from TB. Smoking and other lifestyle factors, such as workplace hazards could also be contributors to the higher prevalence amongst males.

The National Tuberculosis Control Programme has been functioning in Assam since 1962. The State government has established 11 District TB Centres (DTCs) and administers a short-course multi-drug treatment to patients. The prevalence of tuberculosis for the North East, according to NCAER's India Human Development Report<sup>18</sup> is 189 per 100,000 people, below the all India prevalence of 423 per 100,000.

### c) AIDS

Acquired Immune Deficiency Syndrome (AIDS) is an illness caused by the HIV virus. The virus weakens the immune system and the patient usually dies due to secondary infections such as tuberculosis or pneumonia. The virus is transmitted through sexual contact, through blood transfusions and contaminated needles. It can also be passed from an infected mother to her child during pregnancy, delivery or even while breast-feeding.

**The National AIDS Control Programme (NACP) estimated the number of HIV/AIDS cases in Assam to be 149 in June 2002.** Although the number of HIV/AIDS infections in Assam is not very high, the fact of an increasing trend ever since the first case was detected in 1991, is of serious concern. **Proximity to States with a higher and growing incidence of AIDS and the potential inherent in risk factors such as drug abuse are added factors of concern.**

The State AIDS Cell was established in 1992, under the Directorate of Health Services, Assam, under the National AIDS Control Organization (NACO). District AIDS cells were also created in every district. The Assam Aids Control Society was formed and is working under NACO guidelines.

- Knowledge of AIDS among women increased substantially during the 6 year period between NFHS-1 (1992-93) and NFHS-2, (1998-99), from 8 percent to 34 percent.
- Up to January 2000, 39,580 persons have been tested for HIV and 407 have been found to be HIV positive (about 1 percent).
- Voluntary Counselling and Testing Centres (VCTCs) conduct HIV tests, after pre-test counselling by a trained counsellor. It is also an entry point for care and support, including counselling services. A VCTC

<sup>18</sup> Source: India; Human Development Report, NCAER. OUP, 1999



was set up at the Microbiology Department of Guwahati Medical College, Guwahati, during the first phase, and in the second phase VCTCs at the Assam Medical College Hospital, Dibrugarh and Silchar Medical College, Silchar have been set up. This will allow better coverage and reach.

- A Sexually Transmitted Diseases (STD) component has been included in the programme because patients suffering from STD are more vulnerable (up to 10 times) to acquiring or transmitting HIV. Treatment of STD reduces the risk of transmission of HIV. NACO is conducting a community based Reproductive Tract Infection (RTI) survey for India. Five cluster villages of Assam have been included in this currently ongoing study.

Training is a vital component of the battle against AIDS. Since 1995 training has been imparted to doctors, nurses, technicians and paramedical staff, NGO members, women and students of schools and colleges. Training of Trainers (TOT) from faculty members of Medical Colleges, training of district level trainers, district nodal officers, NGO members, faculty members of Government Ayurvedic Colleges and Homoeopathic Colleges, Regional Dental College and a few doctors from private health institutions has also been completed. The training of doctors and paramedical staff of Medical Colleges and District and PHC/CHC staff is being undertaken. About 52 percent of doctors and 60 percent of the paramedical staff have been trained in the second phase of the NACP.

Health awareness and information and a sensitive approach form important parts of the health initiative. Absence of information and lack of knowledge can be detrimental to the health of a population. This is true for most diseases; it is even truer in the case of AIDS, since in the case of HIV positive patients, there are no obvious symptoms. Information, Education and Communication (IEC) is a major component of the National AIDS Control Programme. IEC is directed at increasing awareness about AIDS, its prevention, and on the multi-dimensional aspects of its containment. Awareness generation is done through the print media, which includes newspaper, posters, folders, leaflets, messages, cards and stickers. Hoardings and electronic display boards have been installed in prominent places. Electronic media like Doordarshan and AIR has been engaged for transmission and broadcast of HIV/AIDS messages. Street and folk theatre are being used to spread AIDS awareness. World AIDS Day is observed all over the State on 1 December every year, and is another important platform for communication and spreading information about AIDS.

Panchayat modules have been translated and printed. About 20 percent of the total number of blocks will be covered. The programme has been planned for the three levels under the Panchayati Raj Institutions. Training will be imparted to Panchayat members through the State Institute of Rural Development. The Assam State AIDS Control Society has funded 19 Targeted Intervention Projects and 2 Telephone Hot Line Counselling Centres. Ten NGOs have been provisionally selected for a Targeted Intervention Project.

A wide ranging School AIDS Education programme has been taken up, with the idea that children must know about AIDS - both to protect themselves from the possibility of infection, as well as to be sensitive to AIDS patients they may encounter. State level Advocacy Workshops have been held where the need to initiate an awareness campaign in schools has been explained to senior officials of the Education and Social Welfare Departments. District level advocacy workshops have been held to sensitise Principals and Head Masters of schools.

## d) Cancer

**The prevalence of cancer in the North East<sup>19</sup> is reported to be as high as 127 per 100,000 people, about three times as much as the all India figure of 43 per 100,000 of population.** There is however little quantified data available on the reported incidence of various cancers. According to the information available<sup>20</sup>, the most common cancers amongst males are the cancers of the esophagus, hypo pharynx, or pharynx and the tongue. Among women the most common cancers are those of the cervix, esophagus and breast. There is a high incidence of oral cancer in both males and females and one of the reasons is the consumption of *paan* and betel nut.

The National Cancer Control Programme was initiated in Assam in 1975. Even before the national programme was started, the Bhubaneswar Barooah Cancer Institute (BBCI) was functioning. This institute was taken over by the State Government in 1986, and converted into a Regional Cancer Institute under a tripartite agreement between the State Government, the North-Eastern Council and the Department of Atomic Energy, Government of India.

Facilities for cancer treatment have been upgraded in the Assam Medical College, Dibrugarh. A new cobalt unit has also been started in Silchar Medical College. In addition, the State Government has taken up three district projects in Jorhat, Cachar and Dhubri, with the help of the Central Government, to create facilities for early detection of commonly occurring cancers.

## D5 Other Non-communicable Diseases

### a) Cataract Blindness

Cataract Blindness accounts for over 80 percent of all cases of blindness. The National Blindness Control Programme (NBCP) was started in 1978 with the objective of reducing the incidence of this disease. **The incidence of blindness in India was reported to be 1.4 per cent in 1978. In Assam, the incidence was then below the national average.** The NBCP is being implemented through the district Blindness Control Societies, set up in every district since 1994. There are approximately 40,000 to 50,000 new cases of cataract every year, in Assam. **If the programme is unable to carry out at least 50,000 cataract operations each year, the backlog will accumulate, increasing the incidence of blindness.**

### b) Cardio-vascular diseases, diabetes and stroke

**These life style diseases are important non-communicable diseases affecting the older population, the proportion of which is increasing with longer life expectancy. Lifestyle changes are, however, even more significant causal factors.** There is little objective data available, not even hospital-sourced data, on the incidence of these diseases. The State Government has taken up a pilot project in the district of Kamrup to increase community awareness about cardio-vascular diseases and to enable them to recognise their early symptoms. A key element is a training component for health functionaries.

<sup>19</sup> Source: NCAER, India Development Report, 1999

<sup>20</sup> Source: Bhubaneswar Barooah Cancer Institute (BBCI), Guwahati

### c) Mental health

There is little information available on mental disabilities, their incidence and trend. It is however believed that the incidence of mental illness, especially in the rural areas is fairly high. **Social stigmas, lack of knowledge and the lack of trained health functionaries in this field contribute to the fact that most mental ailments remain unattended.** A pilot district based mental health programme has commenced in Nagaon district. The Department of Psychiatry, Guwahati Medical College is providing the technical assistance to the districts for implementation of this project. This is an area that is relatively neglected, and needs far more focused, as well as sensitive, attention.

## E. Infrastructure

The Government of Assam is committed to the expansion and development of basic health care. Health facilities are being repaired or constructed and the State has an extensive network of facilities. District and Sub divisional level hospitals are being strengthened and 200-bed hospitals are being constructed in Tezpur, Nagaon, Lakhimpur, Nalbari, Goalpara, Mangaldoi, Karimganj, Barpeta and Haflong.

The Department of Health and Family Welfare is responsible for the health services, family planning programmes, medical education and training. The Directorate of Health Services has the administrative control of the health services, except for the various teaching institutions, Universities and similar bodies. The only exceptions are the ANM training schools and in-service training centres, which are under the Directorate of Family Welfare.

There are 23 district training centres, which have been established under the World Bank funded IPP-IX. The Medical Colleges and the Regional Dental College also produce specialists with postgraduate degrees. Training facilities for laboratory technicians, radiographers and ophthalmic technicians are provided in the Medical Colleges. The major training institutions like the Medical Colleges, apart from training and creating workers for health services, provide specialist care for patients. In addition to the teaching institutions, there is a wide network of institutes, both in the public and private sector, which provide health care services in the State,

On the basis of the available data, the average availability of health services is given in the table below:

**Access to Health Services<sup>21</sup>**

1. Hospital beds	26335 (public sector 12179, private sector 14156)	
2. Average rural population served by sub-centre	3800	
3. Average rural population served by PHC	32200	
4. Average rural population served by CHC	190000	
5. Bed: Population ratio	1: 855	
6. Doctor: Population ratio	1: 1195	
7. Annual turn out of doctors	396	
	<b>Assam</b>	<b>India</b>
8. Population covered per hospital (government up-to CHC and other hospitals excluding 650 Tea garden hospitals)	59259	60925
9. Beds per lakh population	117	93

<sup>21</sup> Source: Directorate of Health Services, Assam

The average availability of facilities in Assam is comparable to the national average as is evident from the table above. **A study of all the available information does suggest that Assam has sufficient facilities, even in rural areas. In some hill districts, the number of sub centres is actually more than the norms set by the Government<sup>22</sup>.** There is however an inadequacy of Community Health Centres (CHCs). Some additional Community and Primary Health Centres are under construction, and more are planned.

**There are imbalances though, between rural and urban areas, and the efficacy of infrastructure in rural, especially remote areas is much less than desired.**

Private health care institutions are increasing in urban areas. Towns and cities are, however, already beneficiaries of better infrastructure and services from the Governmental system. These imbalances need to be corrected by an effort to improve the availability and quality of services in rural areas.

Accessibility is an important element in utilisation. According to NFHS-1, 86 percent of villages did have a health facility within a 5 km. radius<sup>23</sup>. However while the provisioning and access are relatively good, the utilisation rate is low.

The bed occupancy in CHCs<sup>24</sup> was only 51 percent, and the average length of stay was 1.9 days. This indicates underutilisation and inefficient use of scarce resources. Indoor patients prefer to go to District hospitals or Medical College hospitals. At the district level the bed occupancy was as high as 92.5 percent, and the average length of stay was 5.88 days<sup>25</sup>.

People do not necessarily visit the facilities, even if they are available. While this may be due to a variety of reasons - credibility loss, poor care and attention, amount of time taken, absence of medicines and sometimes absence of doctors - it has important policy implications. It suggests that it may not be sufficient merely to provide hospital infrastructure: what is required is to make people use the facilities. This will entail considerable work in the community through NGOs, in an attempt to change prevailing attitudes to doctors and medical facilities provided by the Government.

While the access to health facilities has improved considerably, especially in recent years, there are remote, riverine and hill areas that continue to have problems of accessibility. For riverine *chars*, the State Government has initiated a scheme of boat clinics. Similarly, mobile clinics have been started in hill areas.

## F. Special Measures and Innovative Approaches

In recent years, the Government of Assam has taken several initiatives to promote health care. These include legislation to provide an adequate regulatory environment for the construction of clinics and nursing homes, centralised procurement of drugs, and innovative schemes like boat clinics. New management systems like the formation of Hospital Management Societies are being introduced in hospitals to utilise resources judiciously and efficiently.

<sup>22</sup> The Planning Commission norms stipulate that there should be one sub-centre for 3000 to 5000 population, one Primary Health Centre (PHC) for 30,000 people and one Community Health Centre (CHC) for a population of 120,000.

<sup>23</sup> See Table H-6 in the Health Appendix for details.

<sup>24</sup> Directorate of Health Services, Government of Assam

<sup>25</sup> See Table H-7 in the Health Appendix for details.

## F1. A New Drug Policy

A uniform drug policy was adopted in 1996, which has helped the Government to assess the annual requirement of medicines. The State Government has prepared a list of essential drugs and surgical instruments for supply to health institutions, to enable them to receive good quality medicines through streamlined processes of procurement. The policy lists out and fixes scales of essential drugs for different levels of health care, and stipulates that drug purchases should be strictly according to the list. Only drugs that have GMP certificates may be procured. There are measures to ensure the availability of drugs in rural areas.

There has been significant improvement in drug supply, but there are still reported instances of drugs not reaching centres in time. The system requires further rationalising and streamlining.

## F2. Improving Hospital Management

The Government of Assam has constituted a Hospital Management Committee for every district level Government hospital to provide better management, regular supervision and improved facilities for patients. The Committee is headed by the local Minister and has the Deputy Commissioner as the Vice-Chairperson. It can also look into public grievances.

The Government has also introduced modern hospital waste management practices in the Government hospitals, in accordance with the directions of the Supreme Court. Four incinerators have been installed - at the three Medical Colleges and at the Civil Hospital at Jorhat.

### Regulating the Growth of Nursing Homes

The Assam Health Establishment Act 1993 and The Assam Health Establishment (Amended) Act 1999 have been enacted to regulate the growth of nursing homes and maintain standards. The objectives of the legislation are:

- To prevent haphazard growth of private nursing/ maternity homes
- To register and regulate health establishments
- To ensure that only trained and qualified staff are engaged by health establishments
- To ensure proper disposal of waste

Under this legislation, all private hospitals must be registered with the Government. Only hospitals with the prescribed minimum facilities are eligible for registration. The Act also provides for a monitoring mechanism to ensure that the facilities and services in the private voluntary sector continue to be available and maintained at the desired level.

### Health Sector Reform- A Pilot Project

In 1999, the Government of Assam took up a project on health sector reform, in Nagaon district, under the RCH programme, funded by the European Commission. The reform effort makes structural changes in the implementation set-up and attempts to work out an appropriate public-private mix for implementation of the Family Welfare programme.

The district action plan has sought decentralized devolution of power for planning, management of human resources, health facility maintenance and selection of staff and their training at the district level. The district level implementation of the action plan is expected to lead to changes in policy. This policy review will look at manpower management options, rational use of infrastructure, financial system review and performance based funding options.

## F3. Improving Maternal and Child care in Char Areas

The *chars* in the Brahmaputra River pose a development challenge<sup>26</sup>. Providing medical and educational facilities in these areas is difficult. A UNICEF funded project is currently being implemented through an NGO called Rural Multi-Media Publicity and Promotion. The objective is to improve the Maternal and Child Health care services in Mandia PHC of Barpeta district through a community based service delivery system. The emphasis is on reduction

<sup>26</sup> Each *char* is large island in the river. Many of them are inhabited, although on the smaller chars in the monsoon, people may move temporarily to higher ground on the mainland

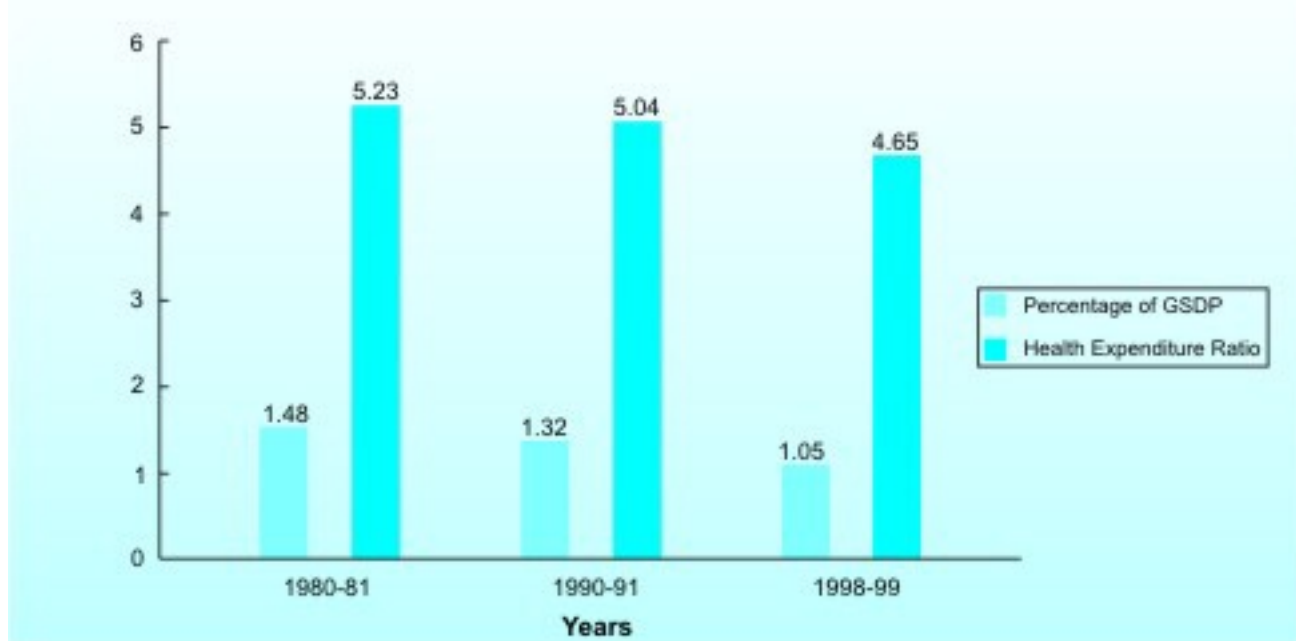
of maternal and infant mortality by setting up an alternate health delivery system, which is community based and sustainable. This is being done through setting up of depot holders, networking with local NGO groups and introducing user charges in the form of registration fees and charges for drugs and dressings. The response has been encouraging and the Government proposes to use this project as a model to construct additional interventions in other areas.

## G. Expenditure on Health

The extensive infrastructure of health services in the public sector entails major public investments – for provisioning, maintenance, recurring expenditure, upgradation, and training. Accentuating fiscal constraints of the Government have had their impact on the health sector too, despite the priority attached by the State Government. Growing revenue expenditure and committed expenditure has hampered the ability of the State to enhance outreach and delivery of health services.

The expenditure on health as a proportion of total public expenditure was 5.23 percent in 1980-81 and remained more or less constant in 1990-91, at 5.04 percent. It declined in 1998-99 to 4.65 percent.<sup>27</sup> The expenditure on the health sector as a proportion of Gross State Domestic product has been lower in contrast to expending on education. From being a little less than half the expenditure on education in the early 80s, the share of health has decreased to about a fifth in 1998-99. The proportion declined from 1.48 percent in 1980-81 to 1.05 percent in 1998-99.

**Public Expenditure on Health, Assam**



<sup>27</sup> Source: National Human Development Report, 2001, Planning Commission. Health expenditure ratio refers to the expenditure on health as a ratio of total public expenditure.



While the expenditure on health services in Assam as percentage of total State Domestic Product is higher than that in most other States, the revenue expenditure on health in Assam is lower than the average of all States. In the last few years, there has been increased investment in the health sector both from the State resources and from other sources. The largest investment apart from the State resources has been through the World Bank funded IPP-IX. The State Government has used this project to augment the rural infrastructure and provide equipment and other medical supplies to the district level hospitals.

## H. Sanitation and Water Supply

Sanitation and water supply are two important components of well-being and good health. Poor sanitation and water supply leads to ill health and disease.

### H1. Sanitation

Sanitation connotes a comprehensive package of measures relating to sanitary disposal of human excreta, liquid and solid waste disposal, food and home sanitation, personal and environmental hygiene, safe water storage and handling practices. Improved health is the principal economic and social benefit of investment in sanitation schemes. Use of sanitary toilets has potential health benefits not only for the households that use them but also for their neighbours<sup>28</sup>.

#### a) Coverage and spread

- **According to the 1991 Census Report, combined (rural and urban) access to toilet facilities in Assam was 37.43 percent, higher than the all India access of 23.70 percent<sup>29</sup>.**
- In rural Assam, 30.53 percent of households have toilet facilities<sup>30</sup>. The figure for rural Assam is substantially higher than the all India figure of 9.48 percent.
- In urban Assam, 86.06 percent households had access to a toilet facility. The urban access is also higher than the all India access, of 63.85 percent.

**There are wide variations across the districts.** The districts with the highest percentage of population with access to toilet facilities were Karimganj, (73.17 percent), Cachar (63.27 percent) and Hailakandi (60.97 percent). In Kokrajhar, Dhemaji, Darrang and Nalbari less than 20 percent of the population had access to a toilet facility. Only about 30 percent of the population in Jorhat and Sibsagar had access to toilets.

<sup>28</sup> Op. cit

<sup>29</sup> The NSS figures for 1997 however show much lower access rates, (both rural and urban) as low as 6.44 percent compared to an all India level of 49.32 percent. This may be due to definitional differences.

<sup>30</sup> This figure does not refer to sanitary toilets alone. It includes all types of toilets, including sanitary toilets.

**Percentage of Households in Assam with Access to Toilets (1991) by District<sup>31</sup>**

District	Households with toilets (%)
Karimganj	73.17
Cachar	63.27
Hailakandi	60.97
Tinsukia	53.65
Kamrup	49.76
Dibrugarh	48.18
Nagaon	41.77
Barpeta	39.42
Goalpara	37.89
N C Hills	34.61
Golaghat	32.32
Sibsagar	32.18
Sonitpur	29.99
Jorhat	29.82
Dhubri	29.64
Bongaigaon	28.21
Karbi Anglong	24.94
Lakhimpur	24.88
Morigaon	24.55
Nalbari	18.62
Darrang	17.05
Dhemaji	16.37
Kokrajhar	14.41
<b>ASSAM</b>	<b>37.43</b>

**b) Rural Sanitation**

Rural sanitation programmes in Assam have been undertaken under NREP (beginning in 1986) and have subsequently been taken under the *Indira Awas Yojana*. A Centrally sponsored Rural Sanitation Programme (CRSP) for people belonging to Scheduled Castes and Scheduled Tribes, and those below the poverty line was launched in October 1986. This was later included under the 20-point Programme. Sanitation programmes have also been undertaken under the Minimum Needs Programme (MNP) but the coverage is low.

One reason for the low coverage of sanitation programmes is lack of user commitment to sanitation, compared to that for water. Information, education and communication (IEC) activities have received comparatively less attention from the Government than the construction of toilet facilities.

**c) Urban Sanitation**

Urban sanitation consists of the disposal of domestic sewage, solid waste disposal and drainage. In Assam, there is no sanitary sewage disposal (sewerage scheme) facility under any urban local body, including Guwahati

<sup>31</sup> Source: Census of India, 1991

city<sup>32</sup>. Sanitary disposal of human excreta is a basic service. Low cost technologies, which are cheaper to construct and require less water to function, are being promoted in Assam. The operation and maintenance (O & M) of these systems can be carried out largely by the users, with the government being responsible in the urban areas for the infrastructure to evacuate the waste beyond the household premises.

A low cost sanitation programme was started in 58 towns in Assam in 1980-81, but the success has been limited. Loans were given for constructing sanitary toilets but the recovery has been slow. In 1990-91, another low cost sanitation programme was initiated, once again with partial success.

The inadequate performance of sanitary schemes is partly due to the fact that the user community is often not consulted before a decision is made regarding the kind of system being introduced. Neither are proper feasibility studies undertaken. User preferences need to be taken into account and sufficient provision made for operation and maintenance expenses, if sanitation schemes are to work.

## H2. Water Supply

Water is a critical resource. Managing available water efficiently is a challenge. With its high rainfall and river systems, Assam has adequate availability of water. However, access to safe drinking water<sup>33</sup> continues to be low, with less than 50 percent of the population being covered. The quality of water is an important issue. Sewage waste has been identified as a major pollutant in Assam.

### a) Coverage and spread

Access to safe drinking water in Assam is substantially less than the national average.

- **The population in Assam with access to safe drinking water is 45.86 percent, compared to the all India figure of 62.30 percent<sup>34</sup>.**
- **Households with access to safe drinking water stand at 43.28 percent in rural areas and 64.07 percent in urban areas.** At the all India level 55.54 percent of people in rural areas have access to safe drinking water, while in urban areas, 81.38 percent of people have access to safe water.

The main source of safe water supply in Assam is ground water, which accounts for 88 percent of the supply. Only 12 percent of the water comes from surface sources. The water supply is either piped through distribution networks or there are spot sources like hand pumps and ring wells. Drinking water in the small towns in the Brahmaputra Valley comes largely from ground water. The common source of water in the towns of the Barak Valley is river water (surface source) because of unfavourable hydro-geological conditions. During the dry months of April, May and June, there is insufficient drinking water in both rural and urban areas.

Data for access to safe drinking water supply shows that the highest coverage (73.66 percent) is in Tinsukia district, followed by Dibrugarh, Nagaon and Morigaon districts. **There is significant inter district variation and a noticeable rural-urban gap.** People in Kokrajhar district have the lowest access to safe drinking water. Less than 10 percent of the total households are covered, and even in urban areas the coverage is as low at 13.58 percent. Karimganj, Hailakandi, Cachar and Bongaigaon also have low access rates of around 20

<sup>32</sup> The present system of excreta disposal is through individual household septic tanks with or without soakage pits, low cost sanitary latrines and dry latrines (conservancy system)/ manual scavenging.

<sup>33</sup> Safe drinking water is defined to cover only tap and bore -well water. Open wells and hand tube wells are not covered, and this may lead to some underestimation

<sup>34</sup> Source: Census of India, 1991

percent. Urban access in three out of these four districts is however more than 75 percent, illustrating once again the rural–urban gap.

### Percentage of Households with Access to Safe Drinking Water<sup>35</sup> ( 1991)

District	Rural hh (%)	Urban hh(%)	Total hh(%)
Tinsukia	70.37	91.00	73.96
Dibrugarh	61.26	92.60	67.22
Nagaon	63.33	79.94	65.32
Nalbari	63.86	96.35	64.69
Morigaon	64.02	45.50	62.67
Golaghat	57.58	89.08	59.50
Kamrup	58.82	55.82	57.71
Dhubri	56.28	54.84	56.10
Sibsagar	51.32	88.19	54.36
Dhemaji	47.95	73.05	48.58
Jorhat	45.86	55.37	47.28
Darrang	45.50	66.75	46.66
N C Hills	38.63	66.29	45.54
Barpeta	38.83	60.88	40.45
Karbi Anglong	32.30	43.21	33.88
Goalpara	28.70	63.81	31.83
Lakhimpur	29.14	27.84	29.03
Sonitpur	26.43	39.57	27.50
Bongaigaon	18.65	35.25	20.46
Cachar	13.74	79.13	20.07
Hailakandi	13.48	79.13	18.54
Karimganj	12.92	77.44	17.83
Kokrajhar	8.54	13.58	8.93
<b>ASSAM</b>	<b>43.28</b>	<b>64.07</b>	<b>45.86</b>

#### b) Rural Water Supply

According to the 1991 Census there are 24,624 revenue villages in Assam, with 70,669 habitations or hamlets, spread over the 23 districts. A status survey conducted in 1993-94, at the instance of the Rajiv Gandhi National Drinking Water Mission (RGNDWM), Government of India, showed that less than half the rural population had access to regular water supply.

- A population of 87.63 lakhs in 32,547 habitations have access to water supply, at the approved norm of 40 lpcd (litres per capita, per day).
- Another 24,462 habitations with a population of 83.27 lakhs have partial access.

The Public Health and Engineering Department (PHED) is largely responsible for the implementation of water supply programmes. Community Development blocks also take up small water supply facilities such as those from spot sources. Rural water supply is funded under the Minimum Need Programme (MNP). The efforts of the

<sup>35</sup> Source: Census of India, 1991

State Government are supplemented by the Central Government through the Accelerated Rural Water Supply Programme (ARWSP) and additional plans for the hill districts.

### ***Sustainability through community participation***

**In Assam, many completed water supply schemes in the rural areas are not working. This is because the community or the water agency is unable to keep the installed facilities functioning due to inadequate funds for operations and maintenance.** The solution seems to lie in the devolution of responsibility to the user communities. In fact, user communities are running about a hundred completed piped water projects successfully, on a cost-sharing basis. **Community involvement at different stages of project implementation and management is an important element in ensuring the success of water supply projects.** The participation of women in water supply and sanitation projects is also essential and has several benefits. Their opinions have important consequences for the acceptance, use and the ultimate health impact of projects.

### **c) Urban Water Supply**

**In the State, 64.04 percent of urban households have access to safe water drinking water.** However the supply is inadequate and per capita water availability is below the required level in most towns, except in the six towns where the Municipal Services are under Oil and Railway managements.

The Assam Urban Water Supply and Sewerage Board (AUWS&SB), established in 1989, is vested with the responsibility of providing water supply to the towns of Assam, except in Guwahati city. (In Guwahati, it supplies water to a part of the city). It has taken up 27 water supply projects for 25 towns. In addition to these, water supply projects in 14 other towns, which were implemented by the PHED, are still being maintained and operated by PHED.

### **d) Water Quality**

Assam reports a high incidence of water borne disease, including diarrhoea and gastro-enteritis. The quality of water is a serious issue meriting attention.

- **Excess iron in the ground water is common in most of Assam.** The iron content of deep tube well water can be treated easily in centralised water treatment plants, but scattered hand pumps pose a problem. Several models of iron removal plants (IRP) attached to hand pumps have been tried but most models quickly fall into disuse due to poor design and functioning.
- Another area of concern is the high concentration of fluoride<sup>36</sup>, reported

#### **Improving Water Quality**

The Assam Public Health Engineering Department (APHED) in collaboration with UNICEF has drawn up an intensive three-phase programme for Karbi-Anglong and Nagaon districts. The Fluorosis Research and Rural Foundation of India, Delhi is providing the scientific and technical input to the programme.

In the first phase, personnel were trained in Nagaon and Karbi-Anglong districts, at different levels. The second phase, which includes a range of activities at the school level, a dental fluorosis survey, water quality survey for all sources - both public and private - a house-to-house health survey, is currently under way in both the districts.

The third phase looks at ensuring safe water and nutritional supplements through dietary sources. Awareness creation, the identification of contaminated sources and restricting the use of water from such sources are other intervention areas. An alternate source, free from fluoride contamination, is to be identified especially for drinking water and for use in cooking.

<sup>36</sup> Fluoride in drinking water can lead to a crippling bone disease called skeletal fluorosis. Dental fluorosis is the first visible sign of fluoride in the body. The permissible limit of fluoride in drinking water is 1.2 mg./litre, anything above 1.5 mg./litre is considered to be hazardous, according to WHO guidelines.

from some parts of the Assam valley and from Karbi Anglong. **People with low nutrition levels, elderly people with deficiencies of calcium and vitamin C, and those with kidney problems are most susceptible to the toxic effects of fluoride. According to recent estimates, about 800 water sources in Karbi Anglong and Nagaon are contaminated with fluoride<sup>37</sup>.** Water testing in affected areas is now being carried out regularly and people are being made aware of the problem. Surface water supply sources are being encouraged because they are comparatively free from fluoride contamination.

- **Bacterial contamination of water also creates a problem during and after every flood – an annual feature in the plains districts of Assam.** Floodwaters contaminate drinking water sources and user communities suffer.

## I. The Way Forward

The indicators show that there is room for improvement in the health status. The rate of change of indicators such as CBR, IMR and CDR is lower than the national average. The rise in the CDR in the 1996-99 period requires serious examination and an attempt to understand the reasons behind this disturbing trend.

- **There is a need to improve the quality of data, the periodicity of its collection and the extent of its coverage. The collection of data, especially disaggregated data, is important; its analysis is even more consequential.** Essential to enhancing the efficacy and efficiency of health care systems and services is objective and continuing analysis. More attention needs to be paid to this aspect, to lay the basis for objective and timely changes in policies, in schemes, focus and territorial coverage.
- **Linked to this is the need to prioritise. Resource and infrastructure constraints make it even more imperative to do so, to target those areas and diseases that impact more significantly on the overall health status of the State and its people.** Meriting priority attention are the imbalances. The rural-urban gap is significant, and in some cases it is widening. Given the fact of relatively low urbanisation, it is clear that the overall health profile and status can only be improved with vastly more attention to the rural sector. In this context, access and utilisation are extremely important. Within this framework, the emphasis needs to be on those districts which are most inadequately served, and within districts, on those blocks that have less than adequate access to health services, qualitatively and quantitatively.
- **There are also population groups that have health indicators substantially lower than the State average,** for example tea garden workers, tribal women and women belonging to the minority community. Targeted programmes that address the particular impediments that these groups face are required, if their health is to be improved. These could be designed and implemented with the participation of the community, to have a good chance of success.
- **The third gap, which in fact encompasses both the earlier gaps, is the gender gap, apparent in life expectancy and maternal mortality rates.** Rural women, especially those living in remote and inaccessible areas are among the most disadvantaged groups and have some of the lowest health indicators.
- **The non-utilisation of hospital facilities is another important issue. Even where adequate physical infrastructure exists, medical services may be unavailable (no doctors, for example) or deficient (poor quality).**
- **Assam still has high morbidity in communicable diseases.** The public health system is weak and despite

<sup>37</sup> Source: Study entitled "An hydro- geo-environmental appraisal of the groundwater fluoride contamination in the Assam valley of the Brahmaputra flood plains", Chandan Mahanta, IIT, Guwahati



heavy investments, the improvement is limited. The State also lacks a system for good epidemiological information, which is essential for good disease control measures.

- Amongst the programmes showing positive results are polio eradication and leprosy elimination. In both these programmes, the vaccine and drug supply is from the Central Government and the funds are made available directly to the State Standing Committee on Voluntary Action (SCOVA) for Polio and to the District Leprosy Society for leprosy elimination. **The implication is that functional and financial autonomy, and clarity of objective and operations can make a difference, in other programmes as well to implementation and impact.**
- **The State Government could have a closer look at the implementation of various measures such as supply of consumables, construction of rural infrastructure and manpower availability in the different health institutions.** It is also necessary to assess whether the structural changes brought in the government system have been useful in achieving the broad outputs intended. For example, the construction of various health units in the rural areas should have resulted in reduction of infant mortality, crude death rates and higher number of institutional deliveries, but this has not happened. The reasons for this need to be examined and effective strategies devised for the future.
- **The private sector is expanding rapidly and in the absence of any controls/ regulations the health care that is provided is often substandard. The Government has enacted the Health Establishment Act to control the unplanned proliferation of private hospitals in the State but the rules under the Act are yet to be framed.** In fact, all over India, the enforcement of laws relating to control of health care in private hospitals has been poor and Assam is no exception. Laws relating to enforcement of standards in manufacture of drugs and pharmaceuticals have also not been effectively implemented. These areas require attention as well.
- Undoubtedly resources are important, and the State needs to find the resources that would enable the expansion of the health care system, and allow for its efficient functioning. There are indications that the State would continue to be under fiscal stress, especially in the short term. **One possible alternative is to find innovative yet sensitive ways to raise resources from within the sector, through a carefully structured, if necessary cross-subsidised, system of charges for services.** Given the fact that private health care systems are expanding, and these provide services at fees certainly higher than in the public domain, it is likely that an increase in revenue generation from health services, at least from people, who can afford to pay, is possible.
- **The provisioning in sanitation and water supply is less than optimum and there is a substantial rural-urban gap. More resources are needed and mobilisation and motivation of the community is required.** While the Government does have the primary responsibility in providing services like sanitation and safe drinking water, past experience has shown that the maintenance of these services is inadequate and in some cases schemes are not working at all. **The involvement of the user communities both at the programme stage and in its implementation is vital to the success of future programmes.**
- Under the 73<sup>rd</sup> Amendment of the Constitution, the responsibility of water supply has shifted to the village Panchayats. To achieve community participation and management, a Human Resource Development (HRD) cell has been created under the PHED to strengthen capabilities of user committees and administrative functionaries through motivation and need based training. A number of user committees have been formed in the villages and the HRD cell is trying to create sufficient skilled manpower at the grass root level to strengthen user committees and village Panchayats.

- **Low cost sanitation systems offer a viable system for safe disposal of human waste in low-income areas, provided operations and management requirements are taken into account from the start.**

This requires coordination between the Government, private agencies and residents. A sound organisation and clear responsibility for effective operation and management is critical. During the planning and design stage, the division of responsibilities and definition of tasks and accountability require detailed consideration and an agreement between the parties concerned. A separate budget for operations and management is required not only to cover regular expenses, but also to allow for replacement and rehabilitation. A separate budget could also avoid diversion of funds meant for O&M for other purposes.

- **Water should be managed as a socio-economic good rather than treating it as a free commodity.**

The key to the success of water supply projects is to ensure sustainability, complemented by a partnership approach. The Government could consider adopting a demand driven approach on the basis of desire and capacity to pay of the user communities. An integrated approach for water supply and sanitation is essential to maximise benefits of improved health of the community. Water must be used in an optimal way, in order to realise potential health and socio-economic benefits.



- **There is strength in the people of Assam that has as yet remained largely untapped by the health sector. This is the vitality and vibrancy of community institutions, of NGOs, of voluntary associations of people, in common cause.** This is an exceptional resource, and one that the Government needs to forge partnerships with, for the betterment and growth of the sector.

# **Women Striving in an Unequal World**





## Women: Striving in an Unequal World

**T**hrough the ages, women have played an extremely important role in Assamese society. History is replete with tales of courage and of extraordinary achievement. Martyrs such as Kanaklata were at the forefront of the struggle for independence. In today's world, women have attained levels of eminence and distinction, as educationists, doctors and technologists, contributing to the growth of the State, and to the strength and uniqueness of its social fabric. **Contributing at work and at home, women – their status and their role - hold the key to the advancement of the State, its people and the economy.**

**There is, however, an uncomfortable incongruity. For women even today, asymmetry and inequity are unfortunately a fact of life.** Despite their contribution, they continue to be severely disadvantaged, and even discriminated against. In most fields of professional endeavour, women have had to struggle to reach the top, in the process combating indifference, occasionally even obstruction and hostility. At the other end of the economic scale, women are deprived access to basic services, and relegated to subservient yet physically demanding roles. **In this context, the position of women in Assam is no different from that of women in other regions of the country. In fact, in some respects, women in Assam are even more disadvantaged.**

Regarded as the 'second sex' and usually as not distinct from the families that they belong to, women have to face many challenges and hardships. Poverty, violence and lack of political participation have been identified as issues of special concern to South Asian women, and Assam is no exception.

For long, policy interventions were designed as gender neutral, and developmental programmes did not have a gender dimension. It is only in recent decades that the contribution of women and their needs have begun to be articulated and recognised. **On the positive front, the Government is now keenly aware of the need to acknowledge the special place and position of women, and of the fact that singular efforts are necessary to allow women to take their rightful place in society.**

Contributing to this recognition is the growing awareness fostered by the global community, and an increasing assertion of women's rights by women themselves, articulated through women's organisations, NGOs and community groups. **At the same time, the Government of India and the State Government have sought to provide a legal and institutional framework to enable women to attain the benefits of development.**

This chapter examines the issue of 'gendered' development and gender inequity. It looks at the Gender related Development Index (GDI) and the Gender Equality Index (GEI), for India and its States, and specifically for Assam. District level indices for the State are also estimated and analysed. Some distinct areas of concern are the adverse sex ratio, low female life expectancy rates, high fertility rates and women's health, education, literacy and employment. It details women's substantial contribution to economic activity in the State and draws attention to their small share of income. The last section suggests possible initiatives that may be taken to redress gender inequity in Assam.



## A. Engendering Development

### A1. Development and the Gender Gap

The current focus on human development has served to highlight the gender dimension, and the continuing inequities confronting women. **Contrary to the earlier, and widely held, belief that development is gender-neutral, statistics show that women lag behind men all over the world.** The differences are in educational attainments, measured by literacy rates and school enrolment figures; in the share of earned income, measured by female work participation rate (FWPR); and proportional rate of female wages to male wages. Other gaps are in the health status of males and females measured by life expectancy at birth (LEB) and infant mortality rates (IMR).

**Although the origin of much of this discrimination lies deep in societal structures, the processes of modernisation and change have accentuated inequity.** The neglect of women's health, denying women equal access to family and community resources such as food, education, healthcare and income, and the devaluation of women's work and overall dignity as persons, all contribute to gender discrimination.

Gender inequity has a negative impact on the development of women and adverse repercussions on the entire process of development. **The failure of many countries including India, in bringing down fertility rates or infant and maternal mortality rates, despite large expenditures on family welfare and population control measures is attributable in part to low female literacy rates and low levels of education.**

People, especially women, must be motivated to take an active role in removing barriers to change long ingrained attitudes and to evolve and implement strategies for self-development.

### A2. GDI for India and the States

The Gender-related Development Index is a useful tool for policy makers. It helps map out future strategies for development. Several attempts have been undertaken to create HDI and GDI rankings for the Indian States, using the same indices for measuring human and gender development as in the HDRs.

One of the earliest such studies, by AK Shivakumar<sup>1</sup> (1996), and based on 1991 data, brought out the differentials in gender attainment between States, the variation between overall human development indices and gender related indicators. It brought out the fact that overall progress and prosperity did not necessarily mean that the position of women in a State was good as well. In this study of 16 major States, Assam was placed at the tenth position.



<sup>1</sup> AK Shivakumar: Gender related Development Index: A comparison for Indian States, Economic and Political Weekly, April 16, 1996

### Measuring Development - A Gender Perspective

In 1979, the Convention on the Elimination of all Forms of Discrimination against Women (CEDAW) focused on achieving legal, social, political and economic rights for women. The United Nations Beijing Conference further extended this mandate, in 1995, and provided a framework for change, in the form of the Beijing Platform for Action (BFA). In the same year, UNDP's Human Development Report introduced the GDI (Gender-related Development Index) and the GEM (Gender Empowerment Measure), two indices of particular relevance to women.

- The HDI ranks the performance of each country on a global scale, using the parameters of life expectancy at birth (LEB); educational achievement, computed by combining total literacy rate with school enrolment at three stages; and per capita share of GDP, computed in Purchasing Power Parity (PPP).
- The GDI uses the same indices as the HDI, but they are adjusted to grasp gender inequalities. The GEM is concerned with the opportunities that are available to women as compared to men, in the economic and political life of a country. It measures women's participatory role in society using as indices women's share of technical, professional and managerial jobs, representation in Parliamentary bodies and share of earned income. While the GDI measures women's attainment of basic capabilities, the GEM measures their success in using the capabilities to play a decision-making role in society.
- The National Human Development Report, (NHDR) 2001 published by the Planning Commission has estimated the Gender Equality Index (GEI). In calculating the GEI, the same indicators have been used as in the case of HDI, for education and health attainments. These are however different from those used by UNDP. Instead of LEB, the NHDR uses life expectancy at age 1 and IMR. Instead of the adult literacy rate and enrolment ratio for educational attainments, the NHDR uses literacy rate for 7+ and the intensity of formal education. In place of real GDP per capita, the NHDR uses per capita consumption expenditure adjusted for inequality, and the worker population ratio for GEI.
- These measures ensure that development is not measured merely in the aggregate but is measured separately for women. The difference between the HDI and GDI ranking, reveals the extent of gender inequality in a society.

The National Human Development Report, (NHDR) 2001 published by the Planning Commission provides a more recent measure of gender differentials. It has estimated the GEI for India as 0.620 in the early 1980s and 0.676 in the 1990s. The GEI for Assam has been calculated as 0.575 in 1991, which implies that gender inequity in Assam is higher than the average for India.





Gender Equality Index for India, 1991<sup>2</sup>

States	GEI Value	Rank
Himachal Pradesh	0.858	1
Andaman and Nicobar Islands	0.857	2
Dadra and Nagar Haveli	0.832	3
Kerala	0.825	4
Manipur	0.815	5
Tamil Nadu	0.813	6
Meghalaya	0.807	7
Andhra Pradesh	0.801	8
Maharashtra	0.793	9
Pondicherry	0.783	10
Arunachal Pradesh	0.776	11
Goa	0.775	12
Mizoram	0.770	13
Chandigarh	0.764	14
Karnataka	0.753	15
Jammu and Kashmir	0.740	16
Nagaland	0.729	17
Haryana	0.714	18
Gujarat	0.714	19
Daman and Diu	0.714	20
Punjab	0.710	21
Rajasthan	0.692	22
Delhi	0.690	23
Lakshadweep	0.680	24
Madhya Pradesh	0.662	25
Sikkim	0.647	26
Orissa	0.639	27
West Bengal	0.631	28
Assam	0.575	29
Tripura	0.531	30
Uttar Pradesh	0.520	31
Bihar	0.469	32

**Assam is ranked 29 amongst 32 States and Union Territories. In a comparison of the North Eastern States, Assam ranks below Manipur, Meghalaya, Arunachal, Mizoram and Nagaland. There is clearly much to be done if the women in Assam are to be equal partners in the development process.**

<sup>2</sup> National Human Development Report, 2001 Planning Commission, New Delhi

## B. Gender Equity in Assam: Inter-District Comparisons

Using the equally distributed indices for income, health and education, the GDI<sup>3</sup> for Assam in 2001 is estimated to be 0.537. It needs to be kept in mind that the GDI captures inequities in income, education and health, and may not reflect all of the discrimination faced by women, and the societal attitudes and family pressures that they have to contend with.

The Index shows wide variations across districts, from a high of 0.877 in North Cachar Hills district, which is ranked first by GDI value, to 0.012 in Karimganj district which is ranked lowest. Only seven districts have GDI values higher than the State average, while 16 districts have GDI values less than the State average.

**Gender-related Development Index (GDI) for Assam's Districts (2001)**

District	GDI index	GDI rank	HDI index	HDI rank	HDI rank - GDI rank
North Cachar Hills	0.877	1	0.363	11	10
Morigaon	0.759	2	0.494	4	2
Jorhat	0.701	3	0.650	1	- 2
Kamrup	0.642	4	0.574	2	- 2
Dibrugarh	0.642	4	0.483	6	2
Hailakandi	0.609	6	0.363	11	5
Golaghat	0.608	7	0.540	3	- 4
<b>ASSAM</b>	<b>0.537</b>		<b>0.407</b>		
Lakhimpur	0.491	8	0.337	17	9
Sibsagar	0.468	9	0.469	7	- 2
Barpeta	0.448	10	0.396	9	- 1
Kokrajhar	0.418	11	0.354	15	4
Goalpara	0.413	12	0.308	18	6
Dhemaji	0.410	13	0.277	20	7
Cachar	0.409	14	0.402	8	- 6
Sonitpur	0.397	15	0.357	13	- 2
Bongaigaon	0.376	16	0.263	21	5
Nalbari	0.357	17	0.343	16	- 1
Darrang	0.317	18	0.259	22	4
Tinsukia	0.300	19	0.377	10	- 9
Karbi Anglong	0.260	20	0.494	4	- 16
Dhubri	0.206	21	0.214	23	2
Nagaon	0.068	22	0.356	14	- 8
Karimganj	0.012	23	0.301	19	- 4

- The difference between the HDI rank and the GDI rank of a particular district indicates the gender disparity in the district. The higher the HDI rank in relation to the GDI rank, the greater the gender inequity. A negative difference between the two ranks implies that the district is comparatively better placed in terms of the HDI

<sup>3</sup> GDI = 1/3 of equally distributed income index + 1/3 equally distributed education index + 1/3 equally distributed health index

index than in the GDI index, and that women do not have the same level of development (income, education and health) as men. Ten districts have higher HDI values than GDI values, reflecting the inequitable access for women.

- Karbi Anglong district has the highest gender disparity. It is ranked at number 4 in terms of HDI and at number 20 in terms of GDI value. Other districts with high gender inequities are Tinsukia (- 9), Nagaon (- 8), Cachar (- 6) and Karimganj (- 4). Jorhat and Kamrup, the two districts that are ranked at the first two places in terms of HDI value, also had GDI ranks that were lower.
- Districts with higher GDI ranks compared to HDI positions, indicating less gender inequity, were North Cachar Hills (11), Lakhimpur, (9) Dhemaji (7), Hailakandi, Goalpara (6), Bongaigaon (5), Darrang (4), Golaghat (4), Kokrajhar (3), Morigaon (2).
- Of the seven districts with GDI values above the average GDI for the State, five districts also have high HDI ranks, however a clear correlation between HDI and GDI is not apparent.

The particular characteristics of a district in respect of its geographical features and development, its population composition, its infrastructure - roads, schools and health facilities - are responsible for the wide disparity in the GDI, across districts. The reasons for these variations become clearer when seen in the context of disaggregated district development profiles and the area specificities that are crucial to development.

### Estimating GEM

Calculating the HDI and GDI is a necessary and useful exercise but calculating the GEM for India and its States is more difficult. Female education is making rapid strides in India and work participation rates are rising, but it is difficult to calculate the number of women holding professional and managerial positions. Most of the agricultural female workforce, as well as those in the handicraft sector, are non-waged family workers, and estimating their income share is not easy. Much of this production is for subsistence and hence not monetised.

The strong family based structure of Indian politics makes it difficult for women to assert independent political choices, as distinct from the male heads of families. Therefore judging women's political agency on the basis of their representation in political bodies is hazardous, as women standing proxy for men is quite common.

## C. Women and Health

Gender inequity is most visible in the health sphere and reflected in adverse sex ratios, lower life expectancies, higher mortality rates and a higher incidence of morbidity. The gender gap in Assam's development is evident, and brought out by all of these indicators.

### C1. Sex Ratios

The **sex ratio** (SR) is the number of women per 1,000 men. It is a good indicator of the health and social status of women. Amongst the major Indian States, the only State with a positive sex ratio is Kerala with 1058 females to every 1000 males<sup>4</sup>. In 1991, this figure was 1036<sup>5</sup>.

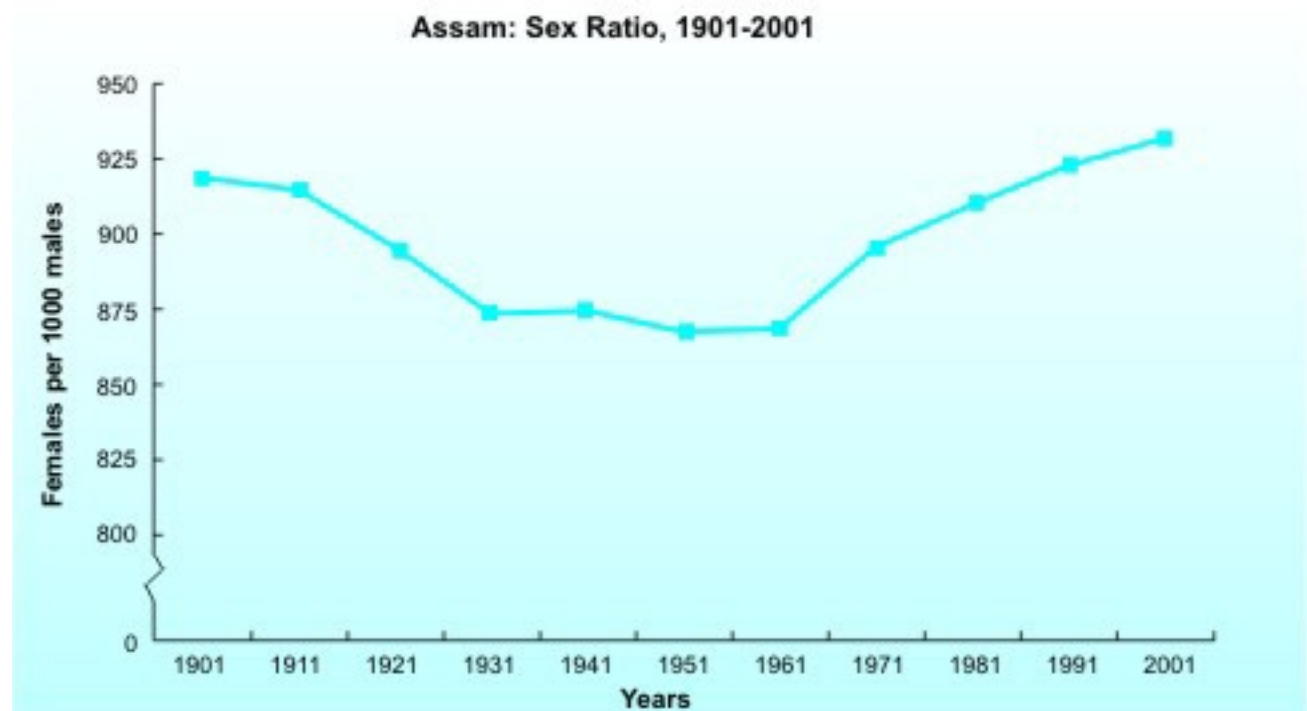
<sup>4</sup> Census of India, 2001

<sup>5</sup> Of concern is also the fact that the sex ratio throughout the country is more adverse in urban areas than in rural areas. The exceptions to this, barring the relatively urbanised Union Territories of Chandigarh, Delhi, Daman and Diu, and Pondicherry are the North Eastern states of Manipur and Meghalaya. In Chandigarh and Delhi, the urban SRs were better than rural, but were still extremely adverse, 792 for Chandigarh and 822 for Delhi.

The SR for India according to the 2001 Census is 933 females per 1000 males. This represents an improvement over the national figure reported in the 1991 Census (927 females/ 1000 males), but of concern is the fact that it is marginally more adverse than the SR in the 1981 Census which was 934 females/ 1000 males.

The data for Assam shows some disconcerting features.

- The SR in Assam is adverse and has been for many decades, certainly throughout the 20th century. The lowest SR was reported in the 1951 Census, at 868 females per 1000 males. At the beginning of the century, the SR was 919 females per 1000 males.
- Encouragingly, in the last decade of the century (1991 – 2001), the SR has improved. There continues to be a significant gap between the ratios for urban and for rural areas, with urban SRs being more adverse than rural SRs.
- The SR in Assam, according to the 2001 Census, is 932 females per 1000 males, marginally below the national SR of 933 females per 1000 males. For Assam as well as for India there has been an improvement in the SR (from 923 to 932 for Assam and from 927 to 933 for India).
- Also encouraging is the fact that there is considerable improvement in Assam, a trend that has continued unabated, since 1951.



**The Sex Ratio in Assam, 1901 – 2001**  
(Females/ 1000 males)

1901	919
1911	915
1921	896
1931	874
1941	875
1951	868
1961	869
1971	896
1981	910
1991	923
2001	932

**District-wise Sex Ratios in Assam, 1971, 1991, 2001**

District	1971	1991	2001	Rank in 2001
Goalpara	939	947	955	1
Lakhimpur	895	931	952	2
Kokrajhar	913	941	945	3
Bongaigaon	926	940	945	4
Morigaon	917	941	945	5
Cachar	918	932	945	6
Dhubri	930	950	944	7
Karimganj	930	946	944	8
Darrang	907	938	943	9
Sonitpur	871	912	942	10
Barpeta	912	939	941	11
Nagaon	894	929	939	12
Nalbari	923	936	937	13
Dhemaji	874	927	936	14
Hailakandi	923	929	933	15
<b>ASSAM</b>	<b>896</b>	<b>923</b>	<b>932</b>	
Golaghat	883	920	929	16
Sibsagar	887	907	926	17
Dibrugarh	863	905	923	18
Karbi Anglong	875	907	922	19
Tinsukia	855	891	909	20
Jorhat	886	913	903	21
Kamrup	855	879	894	22
North Cachar Hills	841	857	883	23

- An examination of the sex ratio at the district level shows that the SR has been consistently adverse. There have been, and continue to be, wide disparities amongst districts. Encouragingly, sex ratios have been rising in all districts since 1971, when more than half of the districts had SRs below 900. The SRs in the State as a whole and in many districts have improved noticeably in the last three decades. This is commendable especially because the situation at the national level has not been very encouraging.
- In 1991 the SRs were low throughout the State, with no district crossing 950 females per 1000 males. The highest SR was reported from Dhubri, 950 females for 1000 males.
- In three districts, Kamrup, Tinsukia and North Cachar Hills, the SRs in 1991 were below 900. The low SRs in Kamrup and Tinsukia may be partly explained by large-scale in-migration of males, because both these districts have large urban centres. It is more difficult to explain the low sex ratio in the North Cachar Hills district. The below the State average SRs in the Upper Assam districts of Golaghat, Dibrugarh, Sibsagar and Jorhat may be due to in-migration of male workers in the tea, oil and other industries.
- The 2001 Census data shows an improvement in almost all districts of the State except in three districts. In Dhubri, the SR has fallen from 950 to 944, in Karimganj from 946 to 944 and in Jorhat it has declined from 913 to 903.
- The most impressive gains in the 1971-91 period were recorded in Dhemaji, Sonitpur, Dibrugarh, Jorhat, Golaghat, Tinsukia, Lakhimpur and Nagaon. In the 1991-2001 period, Sonitpur, North Cachar Hills, Lakhimpur, Sibsagar, Dibrugarh, Tinsukia, Kamrup and Karbi Anglong districts have shown considerable improvement in the SR.

## C2. Life Expectancy at Birth

Life Expectancy at Birth (LEB) is defined as the number of years a person may be expected to live, when she is born, given the prevailing mortality rates in the population to which she belongs. Life expectancies have improved in Assam in recent decades, but continue to be below the average for the country. In the first half of this century, men in Assam could expect to live longer than women. This is no longer true, partly reflective of the biological advantages that women carry. Even so, women in Assam can expect to live 5.2 years less than their counterparts in the rest of the country<sup>6</sup>. Both men and women in rural Assam can, however, expect to live almost 10 years less than their urban counterparts.

- In 1990-92, the LEB in Assam was 53.8 for females and 54.8 for males. This was more than 5.5 years lower than the all India average for females (59.4 years), and a little over 4 years lower than the average male LEB of 59.0 years for the country.
- Assam is one of the few States where till recently (1990-92) the LEB was higher for men than for women.
- Amongst the major States (barring Madhya Pradesh), Assam had the lowest life expectancy at birth for both men and women in 1990-92.
- From then on, LEBs for women in Assam have begun to exceed those for men, a trend that is still continuing. In the 1991- 95 period, female LEB was 56.1, while male LEB was recorded at marginally less - 55.7 years.

<sup>6</sup> Men in Assam can presently expect to live four years less than the national average.

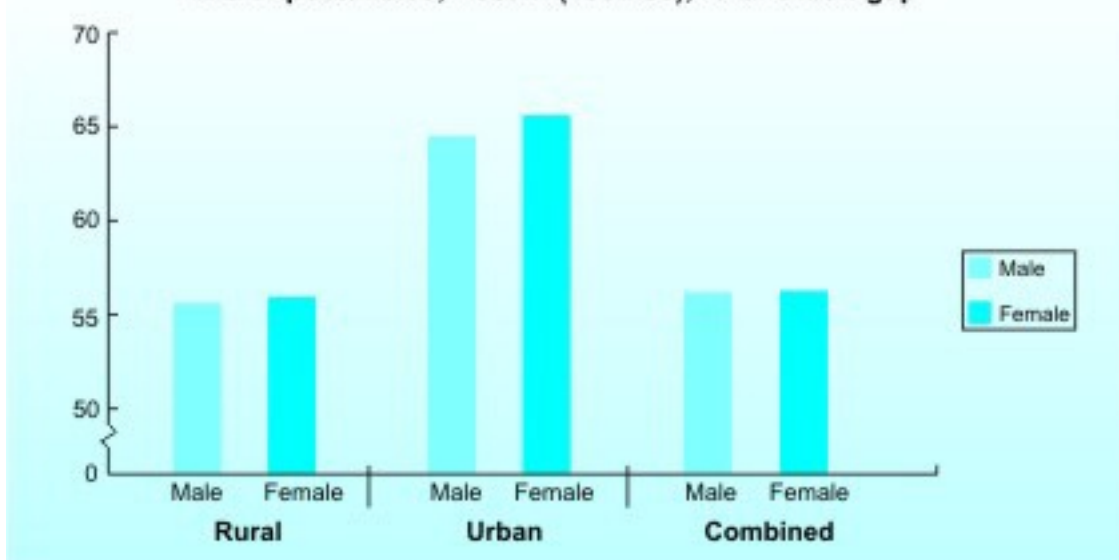


- In 1992- 96 period, the LEB in Assam was 56.2 years, (LEB for males was 56.1 years, for females it was only marginally higher at 56.2 years) while that for India as a whole crossed the 60 years mark and was 60.7 years (LEB for females was 61.4 years and for males it was 60.1 years).
- There is a significant gap between urban and rural LEB in Assam, almost a ten year difference for both males and females.

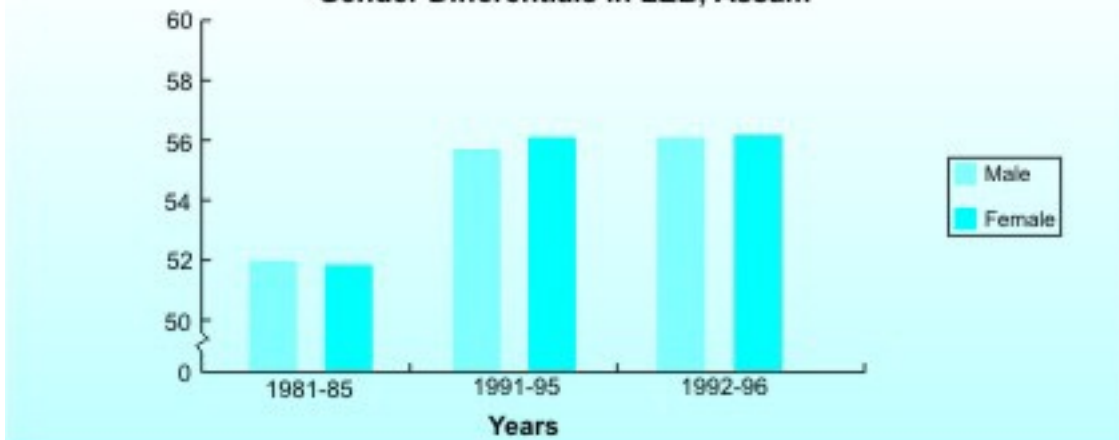
### Life Expectancy at Birth, Assam<sup>7</sup>

	RURAL		URBAN		COMBINED	
	Male	Female	Male	Female	Male	Female
1981-85	51.5	51.0	59.4	61.2	52.0	51.9
1991-95	55.1	55.3	64.1	65.0	55.7	56.1
1992-96	55.6	55.9	64.4	65.5	56.1	56.2

Life Expectancies, Assam (1992-96), rural-urban gap



Gender Differentials in LEB, Assam



<sup>7</sup> National Human Development Report 2001, Planning Commission, New Delhi

### C3. Birth and Fertility Rates

The crude birth rate (CBR) in Assam has been declining since 1971. In 2001, it however continued to be higher than the national average<sup>8</sup>. NFHS-2 data suggests a lower CBR, while the SRS figure for 1996-98 is almost the same for India and Assam. The data on fertility rates is not very conclusive, but it is clear that fertility rates are high, and should be lower. NFHS-2 and SRS data suggest a marginally higher fertility rate than the all India figure while the 2001 Census data has the fertility rate as 3.16 for Assam and 3.19 as the national average.

#### Trends in Crude Birth Rate and Total Fertility Rate

	CBR			TFR		
	Census	NFHS-2	SRS	Census	NFHS-2	SRS
	1994-01	1995-99	1996-98	1994-01	1995-99	1996-98
<b>Assam</b>	<b>27.0</b>	<b>21.8</b>	<b>27.1</b>	<b>3.16</b>	<b>2.85</b>	<b>3.30</b>
<b>India</b>	<b>25.9</b>	<b>24.8</b>	<b>27.1</b>	<b>3.19</b>	<b>2.31</b>	<b>3.20</b>

### D. Explaining the 'Missing Women'<sup>9</sup> and Low LEB Rates

While the sex ratio has improved since the mid 1960s, it continues to be adverse, and significantly so. Some of the reasons advanced as explanations for the poor sex ratio are:

- The preference for male children leads to a higher allocation of nutritional and medical resources to male children and a relative indifference to female children. Deprivation and neglect of the girl child can lead to greater female infant mortality rate (FIMR).
- The Infant Mortality Rate (IMR) in the age group 0-4 is higher for males than females. From age 5 onwards the trend is reversed with much higher mortality rates for females. This is true till the age of 50 years or so, when the trend again reverses with male death rates becoming higher. **It appears that in infancy natural female resilience survives neglect and deprivation. Higher male neo-natal mortality accounts for the higher IMR for male children.**

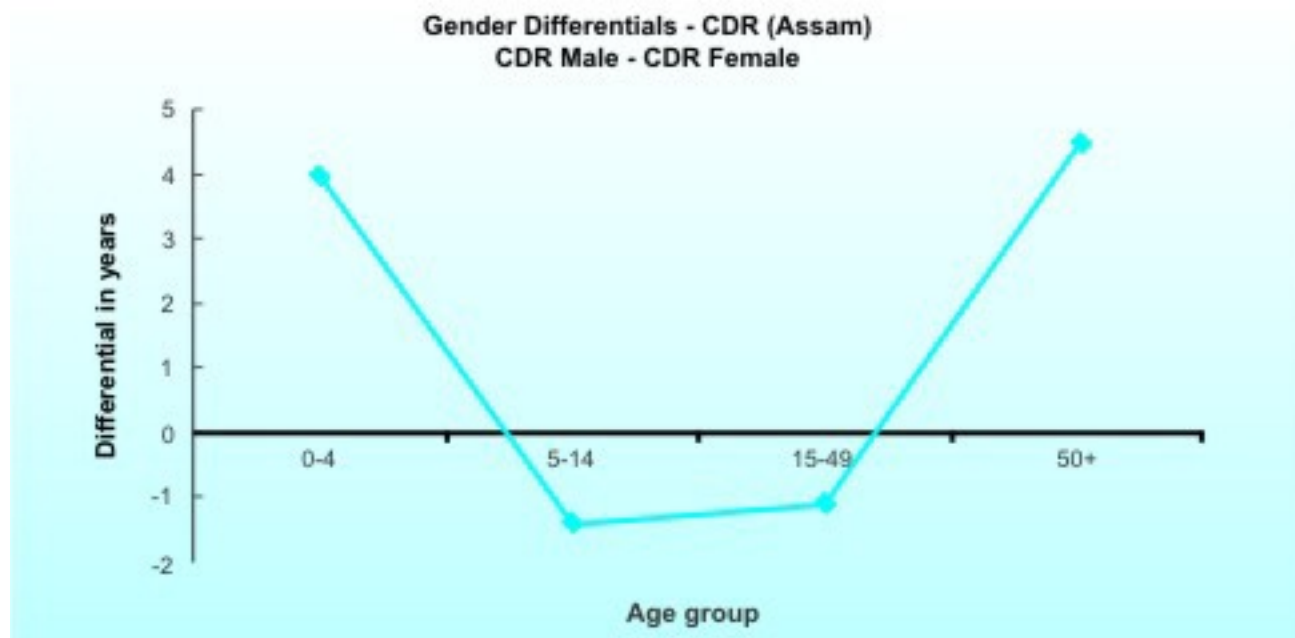
#### Age and Sex Specific Crude Death Rates, Assam 1991-92<sup>10</sup>

Age	Male	Female	Total
0-4	34.4	30.4	32.4
5-14	3.1	4.5	3.8
15-49	4.3	5.4	3.8
50+	39.5	35.0	37.5
<b>CDR</b>	<b>11.6</b>	<b>11.3</b>	<b>11.5</b>

<sup>8</sup> Census of India, 2001

<sup>9</sup> The sex ratio of 933 (2001 Census), suggests that for every 1000 men there are 67 'missing' women.

<sup>10</sup> SRS, 1992, death rates measured per thousand of population.



- Poverty and inadequate patterns of nutrition may partly explain the adverse SR. The effects of early malnutrition and neglect of girl children account for higher mortality rates (MR) amongst adolescent and growing girls. Poor nutrition also leads to a high incidence of anaemia among pregnant women<sup>11</sup>. These contribute to higher mortality rates for women, especially during the critical reproductive years. The Maternal Mortality Rate (MMR) in 1998 for Assam was as high as 409 per 100,000 live births. This was marginally higher than the average for India, which was 407 maternal deaths per 100,000 births.
- Early marriage, cohabitation and childbearing contribute to higher morbidity and mortality rates. The IMR for Assam is 92 per 1000 and the all India figure is 77 (1991). A high IMR is linked to high maternal mortality rates<sup>12</sup>.



<sup>11</sup> According to the NFHS-2 the incidence of anaemia in Assam is the highest in the country

<sup>12</sup> According to an estimate for the period 1982-1986 quoted by Dreze and Sen, the MMR for Assam was calculated at 1028 (per one lakh live births) almost double the all India figure of 555. Even if this figure is considered an overestimation, and if figures have gone down in the decade since the survey, the fact remains that the indicators show that in Assam's safe motherhood is lower than that of most other States.

### Infant Mortality Rates for Major States (1990-92)<sup>13</sup>

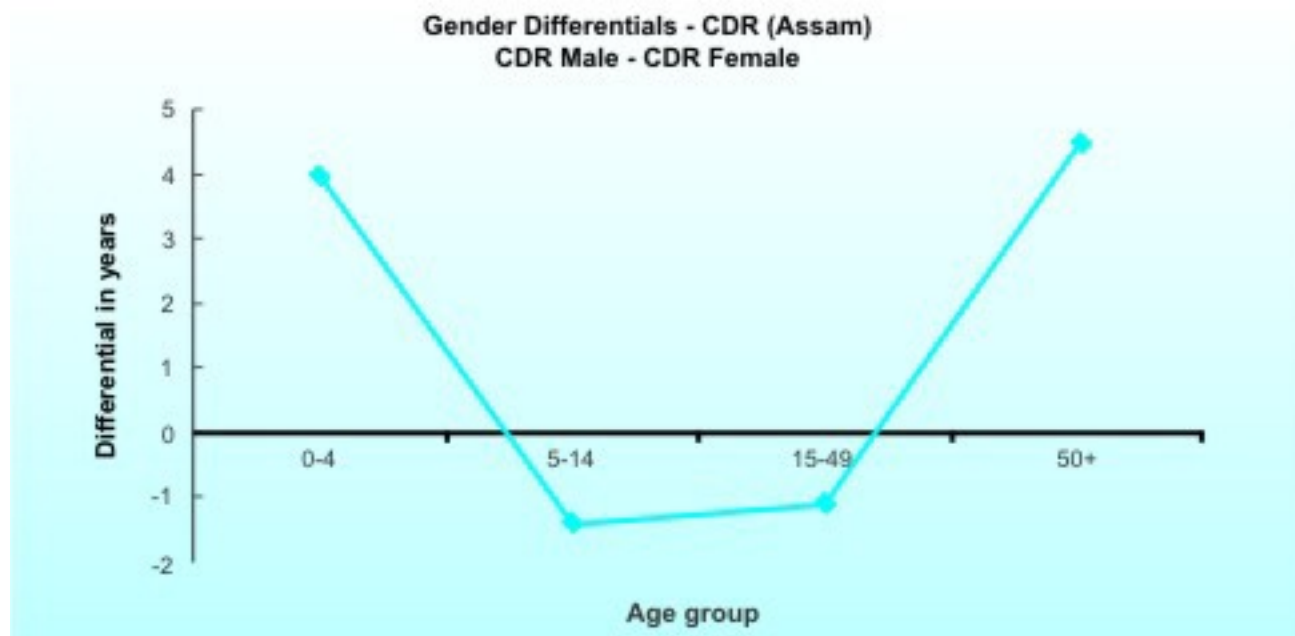
State	Female IMR	Male IMR	Total IMR	Rank
Kerala	15	16	17	1
Punjab	60	47	57	2
Tamil Nadu	60	58	58	3
Maharashtra	53	58	59	4
West Bengal	65	60	66	5
Gujarat	65	62	69	6
Andhra Pradesh	56	73	71	7
Haryana	75	65	71	8
Bihar	66	69	72	9
Karnataka	62	71	73	10
<b>ASSAM</b>	<b>71</b>	<b>84</b>	<b>76</b>	<b>11</b>
Rajasthan	83	84	84	12
Uttar Pradesh	90	86	98	13
Madhya Pradesh	94	101	111	14
Orissa	104	103	120	15
<b>INDIA</b>	<b>73</b>	<b>75</b>	<b>80</b>	

- Inadequate utilisation of available medical infrastructure is an extremely important causal factor, and one of the major challenges that needs to be addressed by the health care system. Less than adequate utilisation is attributable to a variety of factors. These include poor access, non-availability of doctors and para-medical staff, lack of medicines and the absence of proper care and the weak complementary rural infrastructure.
- The last factor is extremely important, especially since transportation facilities in the rural areas of Assam are inadequately developed. In 1995-96 almost three-fourths (74 percent) of roads in Assam were unsurfaced<sup>14</sup>; most unsurfaced roads were in rural areas. The median distance to a hospital in most rural areas of Assam is about 6 kms<sup>15</sup>. Weak public transportation systems and the virtual absence of ambulances, make it extremely difficult for rural women to reach hospitals at critical times, such as for deliveries.
- Other factors that tell on women's health are the lack of good living conditions. These add to the risks that women face in pregnancy and childbirth, and impact adversely on MMR. Laborious work under poor working conditions and drudgery contribute to ill-health and to shortened life expectancies. In rural Assam, a disproportionate share of the work burden falls on the women, as they are expected to work in the fields and in the house. Fetching water, gathering firewood, cleaning and upkeep of katcha houses take up much of their time and energy.

<sup>13</sup> Source: SRS data, 1994

<sup>14</sup> Source: Chief Engineer, PWD (Roads) Assam, in Statistical Handbook, Assam, 1997

<sup>15</sup> Source: NFHS-1, Assam



### Housing Characteristics, Assam and India, 1992-93<sup>16</sup>

Facility	Assam	India
Drinking water from water pipes/pumps	42.2	68.32
Toilets	49.6	30.3
Electricity	20.4	50.9
Pucca houses	2.2	23.7
Use of wood fuel	87.8	63.9

- The provisioning of household facilities in Assam, with the exception of toilets, is less than the all India average. The large-scale use of wood fuel (in rural areas wood fuel usage is as high as 92 percent) has led to the depletion of forest reserves. The task of gathering fuel-wood is usually assigned to women, who have to cover increasing distances foraging for fuel wood. At the same time, wood smoke is potentially very harmful to women's health particularly in the confines of the typical kitchen where women and adolescent girls spend much of their workday. Several studies have shown the relationship between exposure to wood smoke, especially in closed environments, and the high incidence of respiratory diseases among women.

#### Women and Indoor Pollution

'The burning of cooking fuel envelops the indoor environment in heavy smoke, and women who have to do all the cooking may be exposed to more smoke than industrial workers face. Women are being affected at every end of the cooking cycle: as firewood becomes scarce, they have to expend more energy to collect fuel, and they have to confront the dangers of wood smoke every day.'

*Anil Agarwal: 'Domestic Air Pollution'  
in A. Agarwal and S. Narain,  
The State of India's Environment:  
A Citizen's Report, CSE, Delhi, 1986*

<sup>16</sup> NFHS-1, Assam, 1993

- The issue of educating women about their needs and priorities as prelude to articulation of their demands and needs is also relevant. Women are trained since childhood in self-abnegation and self-sacrifice and are prepared to endure a lot of needless suffering. Exposure to modern media, in which messages encourage women to stand up for their rights, is extremely poor in Assam. NFHS data shows that 65.7 percent of rural women in Assam are not regularly exposed to any media<sup>17</sup>.

### What Women Want

A study of a rural development block in Hajo in Kamrup district on 'Women, domestic fuels and environment'<sup>18</sup> reveals that traditional habits and low levels of literacy continue to chain women to a life of drudgery.

When given a future energy use option, 80 percent of rural women, 66 percent of women in semi-urban areas and 61 percent in urban areas had no desire to change to a modern fuel. Less than half the women considered wood smoke to be hazardous and less than a quarter considered the time spent cooking on a wood fire (up to six hours a day) as wasteful.

This perception may be due to the absence of remunerative activity for women in the villages, who attributed no value to their time, and therefore a low opportunity cost. The receptivity to energy options was consequently low. In fact most women surveyed were unaware of alternative energy options such as solar cookers, wind energy, or improved chulas and bio-gas.

## E. Women's Literacy and Education

Many studies have established the critical role of female literacy in the human development paradigm<sup>19</sup>, and specifically the inverse co-relation between female literacy and infant mortality rates and maternal mortality rates.

Literate women are better able to look after the health needs of their children, and it is a fact that early childhood care is almost exclusively the domain of women. Better education of women is empowering as well, since it opens doors to employment, and a wider world. Education makes women capable of direct intervention in personal, family and social decision making processes.

### E1. Women - More Literate Than Before, but Still Less Literate Than Men

In Assam, as in the rest of India, literacy rates<sup>20</sup> for both males and females have shown a rising trend in the last three decades. There is still a gap, albeit a gap that is closing slowly.

- Rural literacy rates in Assam are nearly 25 percent lower than urban literacy rates. For women, the rural-urban gap is even larger - it is close to 30 percent.
- In 1971, the female literacy rate (FLR) in Assam was as low as 18.63 percent. In 1991, it rose to 43.03 percent and then to 56.03 percent in 2001<sup>21</sup>. During the same period, the male literacy rate (MLR) rose from 36.68 percent to 61.87 percent and then to 71.83 percent.

In the 1971- 91 period, while male literacy increased by 25.19 percent, the corresponding rise in female literacy was 24.19 percent. Between 1991 and 2001 the rate of growth of female literacy was higher than that for males. The literacy rate increased by 13 percent for women and by 10 percent for men.

<sup>17</sup> NFHS-1, Assam, 1993

<sup>18</sup> J.Bora and D.N. Goswami in K. Medhi ed. Status of Women and Social Change, WSRC, Gauhati University, 1996

<sup>19</sup> Refer to Dreze and Sen, India, Economic Development and Social Opportunity, OUP, 1995.

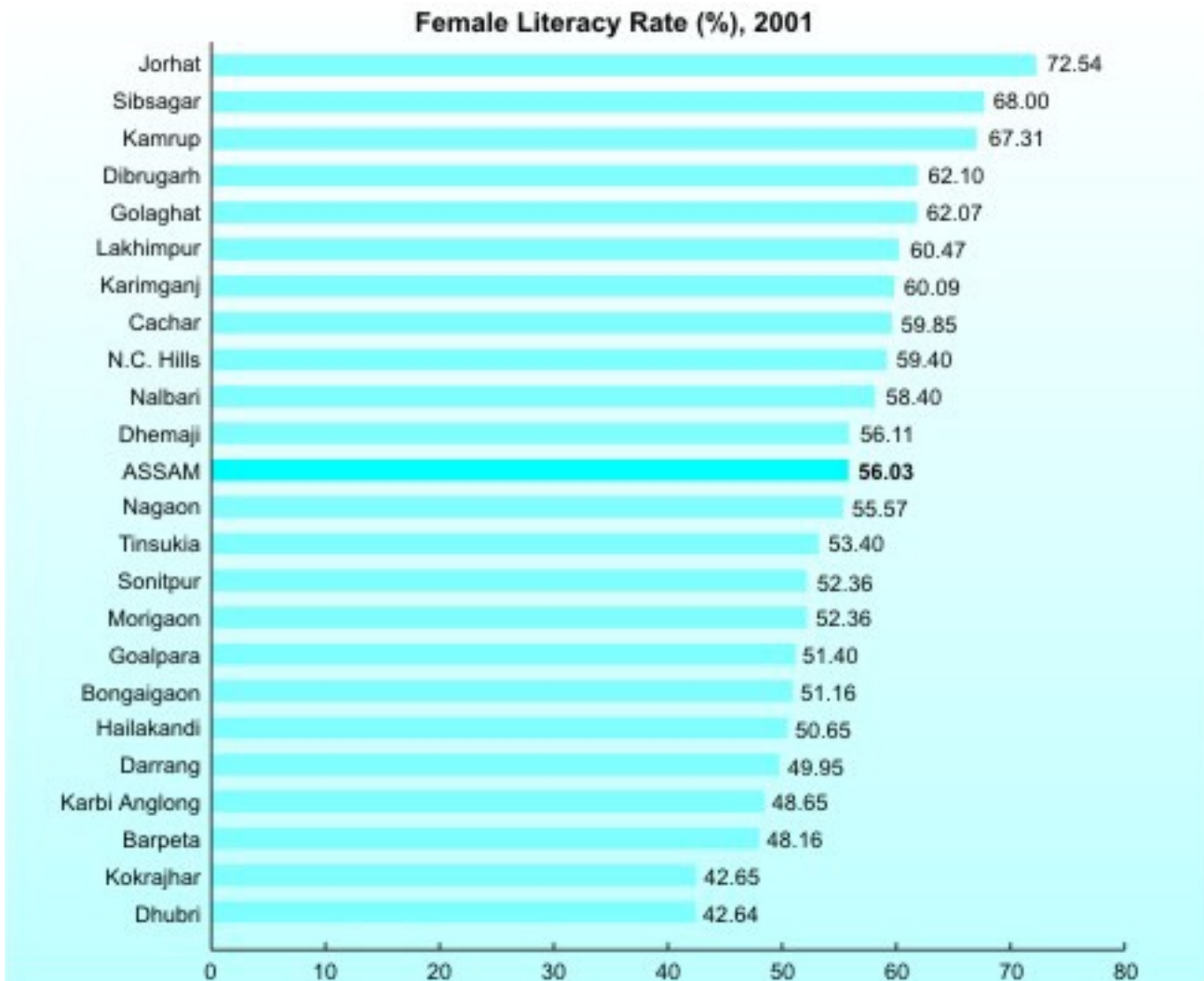
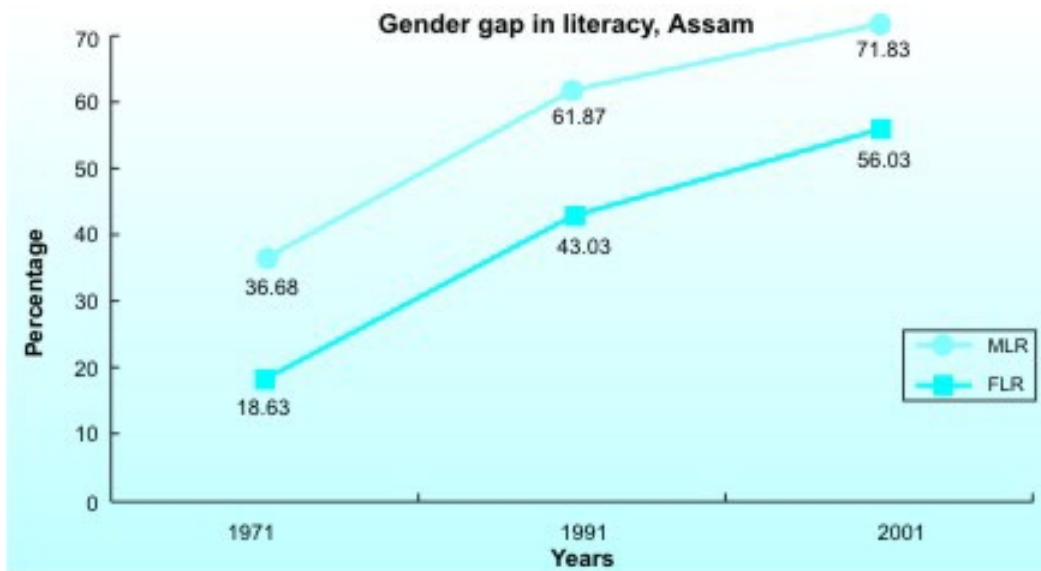
<sup>20</sup> The Census of India defines the literacy rate as the proportion of literates to the total population aged 7 and above.

<sup>21</sup> Data from Census of India, 1971, 1991, 2001



## E2. An Analysis of the Literacy Rates Across Districts

There are continuing and wide differences between districts with respect to female literacy.



### Female Literacy Rates (FLR): Districts Ranked by 2001 FLR

(Source: Census Data)

District	1971	1991	2001	Rank
Jorhat	27.79	56.88	72.54	1
Sibsagar	30.20	56.14	68.00	2
Kamrup	22.74	55.01	67.31	3
Dibrugarh	21.56	48.89	62.10	4
Golaghat	25.28	49.75	62.07	5
Lakhimpur	19.14	48.85	60.47	6
Karimganj	20.19	44.76	60.09	7
Cachar	21.18	48.76	59.85	8
N.C. Hills	17.44	47.34	59.40	9
Nalbari	16.18	44.19	58.40	10
Dhemaji	15.45	41.12	56.11	11
Nagaon	---	46.30	55.57	12
Tinsukia	---	39.94	53.40	13
Morigaon	19.96	39.14	52.36	14
Sonitpur	17.12	38.60	52.36	15
Goalpara	16.36	37.58	51.40	16
Bongaigaon	---	38.72	51.16	17
Hailakandi	15.94	41.04	50.65	18
Darrang	11.32	32.53	49.95	19
Karbi Anglong	10.29	34.35	48.65	20
Barpeta	14.26	33.20	48.16	21
Kokrajhar	11.98	30.92	42.65	22
Dhubri	11.31	28.75	42.64	23
<b>ASSAM</b>	<b>18.63</b>	<b>43.03</b>	<b>56.03</b>	

- In 1971 all districts with the exception of Sibsagar, Jorhat and Golaghat had female literacy rates below 25 percent. In 1991 all the districts had crossed that mark with the lowest literacy rate for women still in Dhubri (29 percent). By 2001, the FLR in Dhubri was 42.64 percent.
- Kamrup recorded the highest increase in the period 1971-91.
- On the whole, the upper Assam districts of Sibsagar, Jorhat, Golaghat, Dibrugarh along with Lakhimpur continue to lead in female literacy rates.
- The districts with the lowest FLR are still the lower Assam districts of Dhubri, Kokrajhar, Barpeta, Karbi Anglong and Darrang.

### E3. Women and Higher Education

As women journey along the path to higher education, many fall by the wayside and drop out. At the primary level the enrolment rate for girls is 48 percent. At the higher secondary stage, the enrolment rate is a

little over 35 percent. In the overall higher education segment the enrolment rate for women is less than 33 percent<sup>22</sup>.

The drop-out rates for girls in Assam are extremely high. From 42 percent at the primary stage it jumps to 72 percent at the middle school level and further to 75 percent by high school<sup>23</sup>. These are high rates indeed. They reflect wastage – of resources, of potential, and skill – and embody a cost that is borne by society today and one that will continue to be borne in the future.

**Girls struggle to cope with the pressures of higher education.** This is signalled by the low success rates in school level examinations, lower than the corresponding rates for boys. High School Leaving Certificate Examination results during the period 1991-96 show that the pass percentage of female candidates rarely exceeded 36-37 percent, compared to almost 50 percent for boys, on the average<sup>24</sup>. Interestingly however, individual girl students regularly and consistently outshine boys in the most meritorious categories, bagging distinctions and awards.

Asymmetrical access is most visible in the technical and professional streams of higher education. In 1997, girls constituted less than 10 percent of the enrolment in engineering colleges, 11 percent in polytechnics and 17 percent in technical and industrial schools. In medical colleges, women's enrolment was higher, at 27 percent of overall enrolment<sup>25</sup>. **A combination of cultural factors, gender stereotyping and a trail of disadvantages shuts the door to most women, even as they strive to scale the educational ladder.**

#### **E4. Reasons for the Low Education Levels and Continuing Gender Disparities**

Early marriage is often cited as a factor hampering women's education. This is however an unlikely causal factor in Assam, since the institution of child marriage is not prevalent in Assamese society. The Single Mean Age at Marriage (SMAM) for women in Assam is 21.6 years. Among urban women, the SMAM is higher, at 22.9 years<sup>26</sup>.

Educated women tend to get married later, and the higher the level of education, the later the age of marriage. An analysis of the median age of marriage for women in Assam indicates that women who have completed high school tend to get married more than eight years later than illiterate women. NHFS-1 data indicates that in rural Assam about 44 percent of women are married before they are 18 years old. An emphasis on girls' education is likely to raise the age of marriage and also lead to lower fertility rates.

**In Assam the overall access is in fact better than in many parts of the country.** Access is therefore a less important factor than in other States. Most villages in Assam have a primary school within the village. The NFHS-1 survey estimates that 91 percent of Assam's villages have a primary school within the village, 86 percent have a middle school either within the village or within a distance of 5 kms, with the median distance being 1.3 kms.

<sup>22</sup> The figure for Assam for enrolment of girls in higher education is 28 percent, lower than the national average of 34.1 percent. The Assam figure is lower than several States of the North East, notably Manipur (42.8 percent), Meghalaya (39.7 percent), and Nagaland (also 39.7 percent). UGC data, 1997.

<sup>23</sup> National Human Development Report, 2001, Planning Commission, New Delhi

<sup>24</sup> Source: Board of Secondary Education, Assam, in Statistical Handbook, Assam, 1997

<sup>25</sup> Source: Selected Educational Statistics, Ministry of Human Resource Development, GOI, 1997

<sup>26</sup> Source: NFHS-1, 1993

**A study of enrolment, non-enrolment and dropout rates, carried out by the National Sample Survey<sup>27</sup> suggests that while the facilities and access may be available, it is not necessarily true that there will follow a positive and consequent impact on educational attainment.** Amongst the ancillary factors that lead to high drop out rates amongst girls, are the inability to cope with the school system, the academic burden, lack of parental interest and self-motivation, domestic duties, sibling care responsibilities, and financial constraints.

Girls are not required to pay fees in Government schools yet financial constraints has been cited as a factor constraining the education of girls. In urban areas this may be indicative of the presence of a large and growing number of private institutions offering education perceived to be of a higher quality but at a higher cost.

Other contributory factors appear to be insufficient sanitation and other facilities within the school. **The quality of teaching, the unmet need for more women teachers, inappropriate curricula, and the fact that girls may need special attention to help them overcome social and cultural barriers are other limiting factors.**

Society continues to see women and girls in traditional roles – and only in such roles – of wives and mothers, essentially home bound, and without personal needs and aspirations. Patrilocal marriage traditions (where married girls live in their husband's father's home) discourage investment in higher education for girls. Continuing traditions of hypergamy, where the husband is expected to be more educated than the wife (or expected to belong to a higher caste) makes finding husbands for highly educated girls a problem. The primacy given to marriage exceeds that given to education and is one of the main reasons for limited gains in women's education.

## F. Women – A Fifth of the Workforce but Little Income

**Women's participation in economic activity and control of the income earned from it are critical to their use of the choices that health and education make available to them.** Women perform almost all the household labour and a considerable portion of socially productive labour. Yet, women's labour contribution has not been recognised, nor has it been given due remuneration and respect. With industrialisation and monetisation of the economy, women's labour burden has increased, though this is not reflected in their share of the income.

Women's wages tend to be lower than wages for corresponding work by men. Much of women's labour is non-waged since it is categorised as household labour, even when it is for market consumption. Consequently, even if women's share of work is larger, and this is true of most societies, their share of income is lower.

A major reason for the under-valuation of women's work is that it does not enter into the National Accounts System, which only considers market oriented productive activities. Prior to the 1991 Census, much of women's labour in India was not recorded in the National Accounts since it was unpaid and seasonal in nature, as farm-work and household work tends to be<sup>28</sup>. As a result of methodological changes introduced from the 1991 Census, the socially productive role of women and their contribution to the economy has been given a degree of formal recognition in the official data system.

In Assam, as in other States, the impact of this change was to enhance the recorded contribution of women to economic activity. In the State, the Female Work Participation Rate (FWPR) rose from 4.66 percent

<sup>27</sup> NSS, 52<sup>nd</sup> round, 1995-96

<sup>28</sup> In the 1991 Census, seasonal work was included by adding a category of marginal workers to that of main workers.

(1971 Census) to 21.61 percent recorded by the 1991 Census. FWPR here includes both main and marginal workers<sup>29</sup>.

This rise was much higher in some districts than in others, with Dhemaji recording an increase of over 40 percent, and the adjacent district of Lakhimpur, also with a significant tribal population, recording a difference of almost 35 percent. Karbi Anglong district, which is also overwhelmingly tribal, recorded a difference of almost 28 percent. This order of increase may be attributed to the fact that women in tribal areas tend to participate actively in agricultural activities, possibly higher than in other community groupings.

In the 1971 Census, the bulk of the female workforce, as recorded, consisted of tea garden labour, who are concentrated in the tea growing districts of Upper Assam, the North Bank district of Sonitpur and the Barak valley. The first ten ranks (with the exception of the North Cachar Hills district) in FWPRs went to these districts.

### Female Work Participation Rates (%) in Assam's Districts

Arranged by Rank (1991)

District	1991	1971	1971 Rank	% change (1991 - 71)	1991 Rank
Dhemaji	41.59	1.28	20	40.31	1
Lakhimpur	37.84	3.49	12	34.35	2
Karbi Anglong	33.63	5.75	9	27.88	3
Sibsagar	33.44	8.91	6	24.53	4
Golaghat	31.59	9.38	4	22.21	5
N.C.Hills	30.03	24.10	1	5.93	6
Tinsukia	29.87	11.71	3	18.16	7
Dibrugarh	29.14	11.84	2	17.30	8
Darrang	29.08	3.35	13	25.73	9
Sonitpur	27.86	7.36	5	20.50	10
Jorhat	27.81	9.02	5	18.79	11
Bongaigaon	19.77	1.40	19	18.37	12
Kokrajhar	19.37	2.27	14	17.10	13
Nalbari	19.36	1.69	18	17.67	14
Nagaon	19.08	2.23	15	16.85	15
Goalpara	17.56	1.76	17	15.80	16
Marigaon	17.49	0.60	23	16.89	17
Kamrup	13.94	2.20	16	11.74	18
Cachar	13.07	6.12	8	6.95	19
Hailakandi	11.97	4.09	10	7.88	20
Barpeta	10.97	1.17	21	9.80	21
Karimganj	8.60	3.71	11	4.89	22
Dhubri	8.23	1.11	22	7.12	23
<b>ASSAM</b>	<b>21.61</b>	<b>4.66</b>		<b>16.95</b>	

<sup>29</sup> If only main workers are considered the female work participation rate of Assam was 12.57 percent in 1991, a three-fold increase over the 1971 figures.

### Tribal Women – Work Harder but Are Less Literate and Have Less Access to Health Care

In Assam, 12.89 percent of the population is classified as Scheduled Tribes. Tribals are the dominant community in the two hill districts of Karbi Anglong and North Cachar Hills. In Kokrajhar and Dhemaji, they constitute over 41 percent of the total population. Other significant concentrations of Scheduled Tribes are in Lakhimpur, Goalpara, Bongaigaon, Nalbari and Darrang districts.

Social and demographic indicators, and gender development are influenced by the composition of population. For instance apart from the tea growing districts of Upper Assam, FWPRs are highest in the tribal dominated districts of Dhemaji, Karbi Anglong, North Cachar Hills and Lakhimpur, reflecting the women oriented pattern of agriculture in these areas. However in other aspects like health and education, tribal women lag behind their non-tribal counterparts.

NFHS-1 data indicates that:

- Illiteracy among married Scheduled Tribe women is 75 percent, higher than the corresponding figures of 45.9 percent for SC and 56.7 percent for women in general. Similarly, exposure to mass media is the lowest. 72.1 percent of Scheduled Tribe women were not exposed to any media at all compared to 60.9 percent for the total sample. The TFR for Scheduled Tribe women is 3.73; higher than the general average TFR of 3.53, and the mean number of children ever born is 6.27, more than the figure of 5.74 for the total sample.
- Neonatal mortality rate is lower at 47.6 (per 1000 live births) but under-5 mortality, at 150, is higher than the corresponding figures of 55.6 and 143.7 for the total sample. A high proportion of tribal women (68.9 percent) received no antenatal care compared to 50.7 percent for the total sample. Nearly three out of four expectant mothers (73.4 percent) received neither of the stipulated two doses of Tetanus Toxoid vaccine compared to 56.1 percent in the total sample. Only 6.8 percent of the deliveries of Scheduled Tribe women took place in a hospital compared to the State figure of 11.1 percent.

### Percentage of Main and Marginal Workers in Assam, 2001 by Gender and Place of Residence<sup>30</sup>

<i>Main workers as a % of total population</i>									
	Total ( rural and urban)			Rural			Urban		
	Persons	Males	Females	Persons	Males	Females	Persons	Males	Females
Assam	26.59	42.35	9.68	26.15	41.46	9.86	29.62	48.26	8.40
India	30.55	45.35	14.68	31.03	44.51	16.77	29.30	47.46	9.12
<i>Marginal workers as a % of total population</i>									
Assam	9.29	7.58	11.12	10.30	8.31	12.42	2.36	2.77	1.89
India	8.71	6.59	10.99	10.94	7.85	14.21	2.93	3.38	2.43

An analysis of the main and marginal workers based on 2001 Census data shows that much fewer women were employed formally in the agricultural sector than men. In 2001, only 9.68 percent of women were classified as main workers, while 41.6 percent of men were classified as main workers. Only 7.58 percent of men worked in a marginal capacity (both rural and urban), while 11.12 percent women worked as marginal workers. This has implications for the respective income shares and the control over resources within the family.

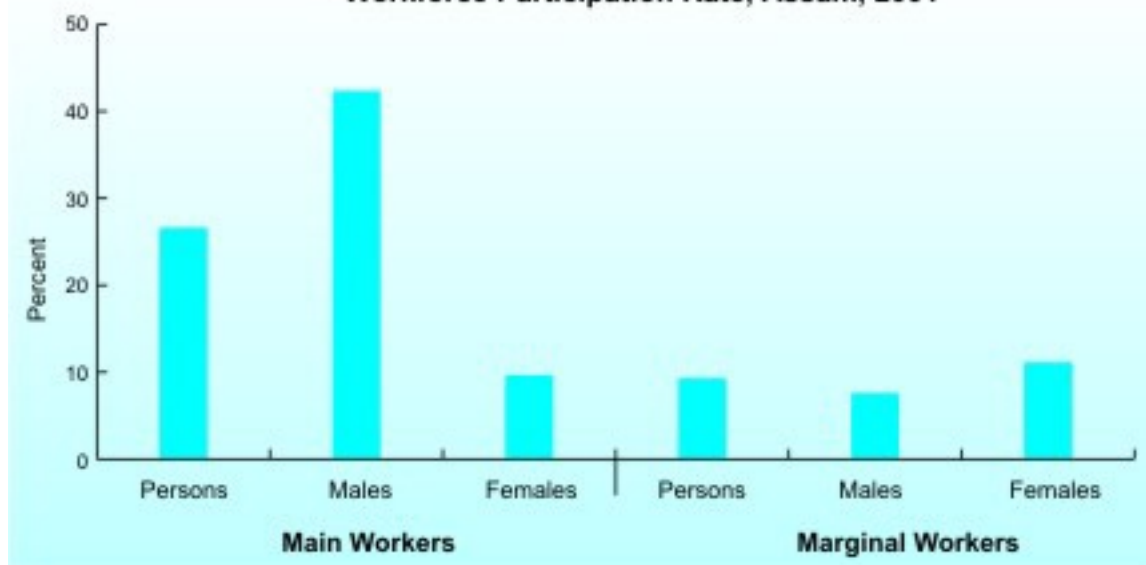
<sup>30</sup> Source: Census of India, 2001



### Main and Marginal Workers as a Percentage of Total Population, Assam, 2001

Districts	Main workers			Marginal workers		
	Persons	Males	Females	Persons	Males	Females
Dhubri	24.47	43.67	4.14	15.24	10.05	48.42
Kokrajhar	26.02	39.78	11.46	29.96	17.75	54.67
Bongaigaon	25.73	43.35	7.08	20.74	11.06	53.53
Goalpara	25.40	42.44	7.54	23.82	12.33	57.03
Barpeta	24.87	42.91	5.70	20.86	10.25	59.33
Nalbari	25.27	41.44	8.00	25.02	14.27	55.71
Kamrup	26.74	43.44	8.07	18.10	10.67	45.42
Darrang	26.99	44.76	8.14	25.05	11.16	60.79
Sonitpur	27.59	42.49	11.76	26.72	15.31	51.69
Lakhimpur	32.36	45.10	18.97	42.35	27.34	61.97
Dhemaji	27.44	38.27	15.87	38.12	23.59	58.46
Morigaon	25.74	44.57	5.81	24.14	11.85	64.41
Nagaon	24.31	42.15	5.31	22.56	14.64	56.60
Golaghat	28.58	42.10	14.02	31.26	18.25	54.62
Jorhat	28.49	42.13	13.39	31.52	19.95	54.44
Sibsagar	27.28	40.02	13.52	33.26	21.98	54.36
Dibrugarh	28.96	41.24	15.65	28.28	18.33	46.78
Tinsukia	30.53	42.06	17.85	25.12	16.97	40.32
Karbi Anglong	28.24	40.88	14.53	30.40	16.60	53.75
N C Hills	29.30	43.50	13.20	21.96	11.45	45.92
Karimganj	23.36	40.40	5.30	23.20	15.70	55.30
Hailakandi	25.41	41.55	8.10	23.77	15.18	51.04
Cachar	25.17	41.85	7.52	21.77	15.90	44.56
<b>ASSAM</b>	<b>26.59</b>	<b>42.35</b>	<b>9.68</b>	<b>9.29</b>	<b>7.58</b>	<b>11.12</b>

#### Workforce Participation Rate, Assam, 2001



Gender disaggregated data on the rural-urban distribution of main workers confirms that most women work in the agricultural sector on family farms and for no wages<sup>31</sup>. A majority of women workers in the rural sector (51 percent) work on their own land – land that belongs to their family, to which the women are unlikely to have title or rights. They receive no wages for this work but contribute to the family income. Marketing of produce is mostly in the hands of men, and rarely do women have access to the income earned. Amongst some communities, and in some areas, women do play an important role in marketing. Even in these cases, the income received is pre-empted for household expenses and the common pool, and is not available for asset building by the women, or for their own needs.

Though such a large proportion of women work in agriculture, agriculture is perceived as a male activity. Traditionally men are the owners of land. The laws give women the right to own and inherit property, but rarely do women inherit land. Social taboos against women doing certain agricultural tasks like ploughing bar women from farming on their own, even if they possess land. Patrilocal marriage systems make impractical women's inheritance or management of such inherited landed property. Without possession of land women cannot get credit from banks. Most government programmes related to agriculture such as extension services and special training are directed at men.

**Women's presence in the workforce has been recognised in the official data system, yet they are still deprived of the economic rewards of participation. This is largely attributable to traditional customs and attitudes.**

## F1. Women in the Organised Sector

In the 1990s the employment of women in the organised sector as a proportion of total organised sector employment was around 30 percent. Women currently account for 31.8 percent of the total workforce in the organised sector<sup>32</sup>. In the public sector, women constitute a little less than about **15 percent of the employee workforce**. This includes women workers in the State and Central Government service, in quasi Government employ, and in establishments in the private sector.

**Organised Sector Employment, Assam, 1999<sup>33</sup>**

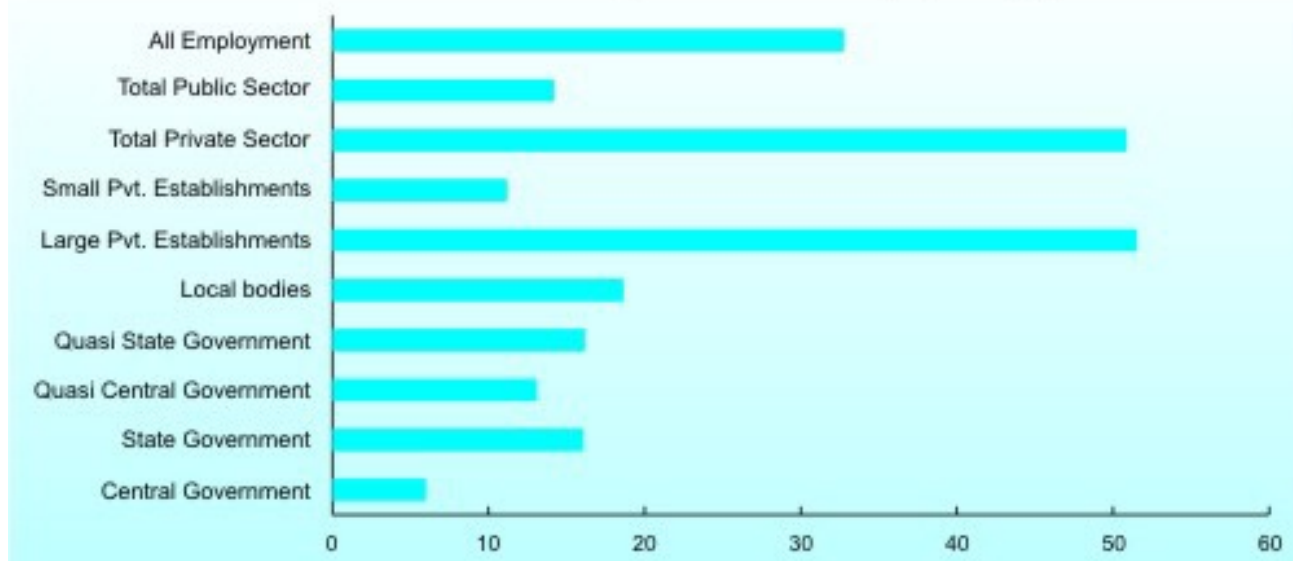
	Number of establishments	Employment of men	Employment of women	Total employment
Central Government	300	76,411	4,863	81,274
State Government	3,601	257,768	49,445	307,213
Quasi Central Government	993	66,324	10,020	76,344
Quasi State Government	495	46,949	9,066	56,015
Local bodies	109	10,688	2,451	13,139
<b>Total Public Sector</b>	<b>5,498</b>	<b>458,140</b>	<b>75,845</b>	<b>533,985</b>
Large Establishments	1,083	260,839	277,590	538,429
Small Establishments	625	8,007	1,010	9,017
Total Private Sector	1,708	268,846	278,600	547,446
<b>Total Employment</b>	<b>7,206</b>	<b>726,986</b>	<b>354,445</b>	<b>1,081,431</b>

<sup>31</sup> Source: Table 1.10, Statistical Handbook, Assam, 2001

<sup>32</sup> Economic Survey of Assam, 2001-2002

<sup>33</sup> Source: Table 19.01, Statistical Handbook, Assam, 2001

### Women's Share In Organised Sector Employment (%)



### Distribution of Assam Government Employees – 1994<sup>34</sup>

Category	Total	Women	Percentage of women employees
Class 1	8,145	713	8.75
Class 11	6,242	374	5.99
Class 111	2,36,916	41,025	17.31
Class 1V	53,532	3582	6.69
<b>Total</b>	<b>3,04,835</b>	<b>45,694</b>	<b>14.98</b>

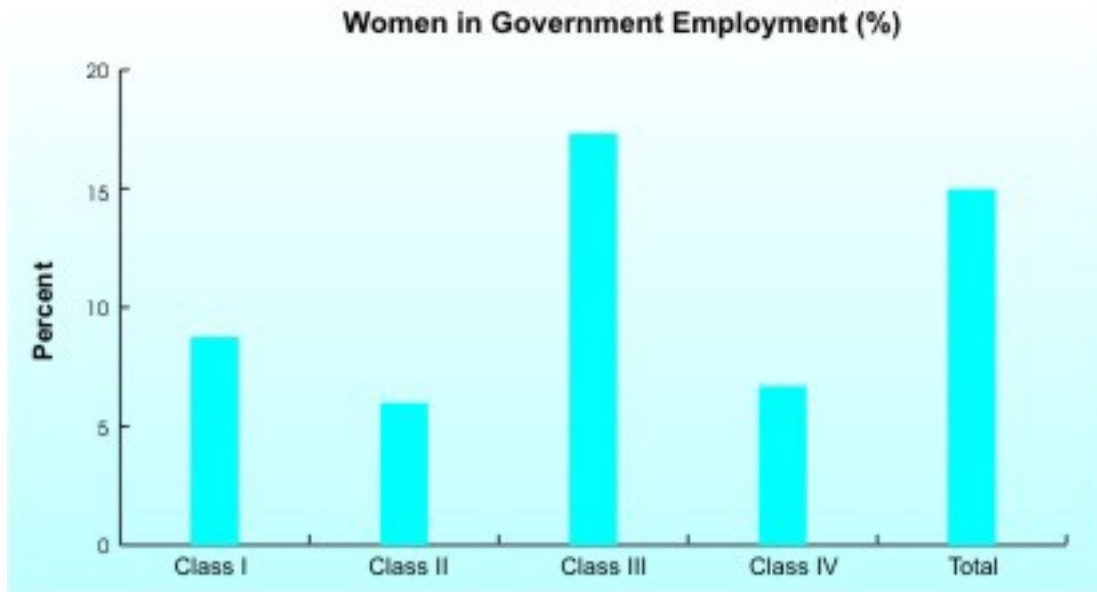
In 1994 there were 3.04 lakh State Government employees. In the aggregate women formed about 15 percent of the employees, most of who were in Class III level jobs – secretarial jobs in Government offices and teachers in provincialised schools.

The districts with the highest proportion of women employees were the Upper Assam districts of Dibrugarh (23 percent), Sibsagar (21 percent), Jorhat (20 percent) and Golaghat (17.5 percent). Not surprisingly these districts also have relatively high attainments in women's education and in workforce participation. The districts with the lowest proportion of women employees were also the districts with relatively poor performance in human development and gender related indicators.

Most women workers in the organised sector are employed in the tea gardens. This accounts for the preponderance of women workers in large scale (employing over 25 workers) private sector establishments. While there is little difference in the wage rates between men and women, there is job segregation, as some tasks are specifically assigned to either men or to women on grounds of perceived suitability<sup>35</sup> and there is discrimination in promotions.

<sup>34</sup> Directorate of Economics and Statistics, Assam

<sup>35</sup> In 1999, the daily wage rates were similar for men and women being Rs. 31.60 to Rs 31.43 with half rates for children.



**Women Employees as a Percentage of Total Employees, (1994)<sup>36</sup>**

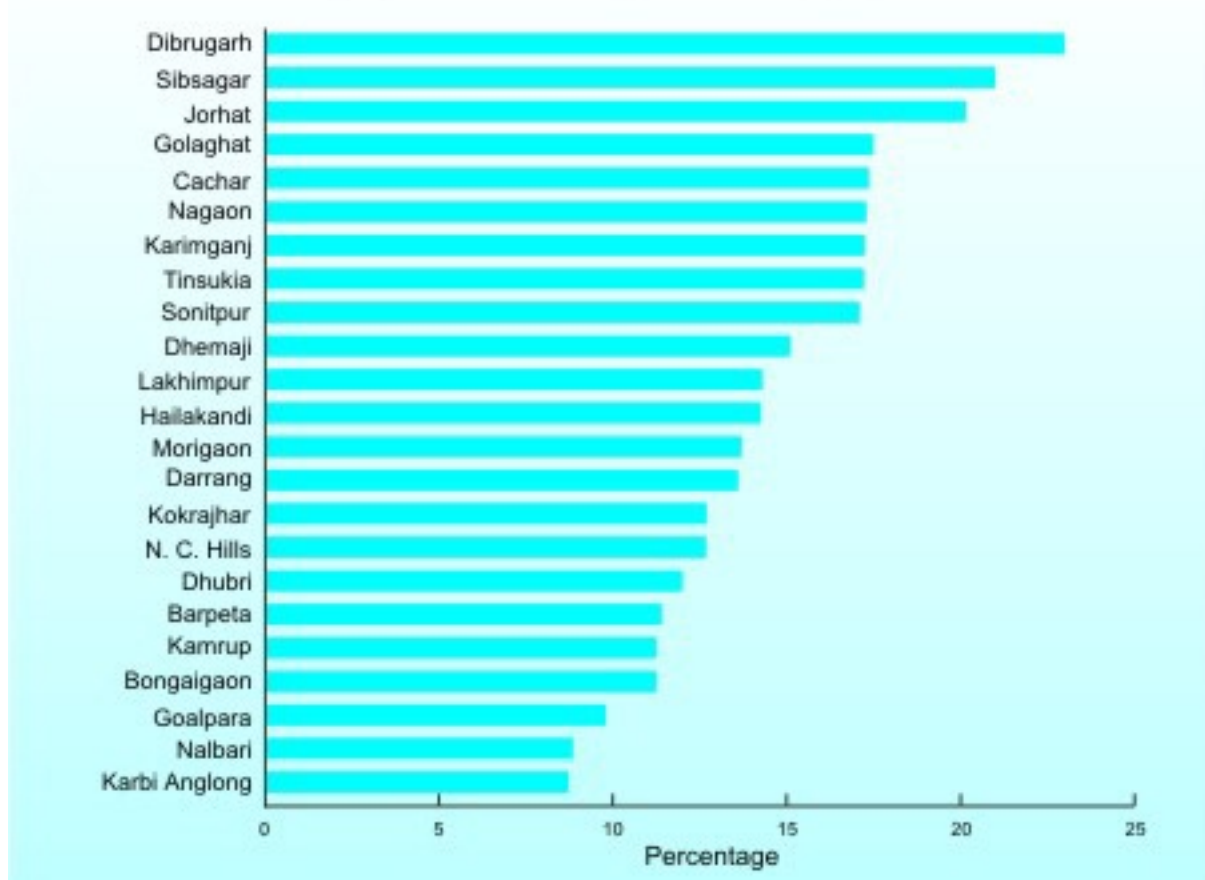
District	%
Dibrugarh	23.00
Sibsagar	21.00
Jorhat	20.15
Golaghat	17.50
Cachar	17.37
Nagaon	17.29
Karimganj	17.24
Tinsukia	17.22
Sonitpur	17.10
Dhemaji	15.10
<b>Assam (State average)</b>	<b>14.98</b>
Lakhimpur	14.30
Hailakandi	14.26
Morigaon	13.70
Darrang	13.60
Kokrajhar	12.70
North Cachar Hills	12.68
Dhubri	12.00
Barpeta	11.40
Bongaigaon	11.25
Kamrup	11.25
Goalpara	9.80
Nalbari	8.85
Karbi Anglong	8.73

<sup>36</sup> Source: Directorate of Economics and Statistics, Government of Assam

Women workers constituted 43 percent of the daily average total number of labour employed in 1991, compared to 46 percent of male workers. The remaining 11 percent were adolescents<sup>37</sup>. In 1993-94 the percentage of the women workforce rose to 45 percent. Though tea garden labour belongs to the organised sector and is unionised, in practice women have little say in union activities as the unions are male dominated.

Working conditions are poor although there are statutory provisions regarding the supply of drinking water, sanitation, maternity and sick leave and provision of crèches. Water borne diseases are common. The tea garden labour community is characterised by high infant and maternal mortality rates, and most women are illiterate. Since nearly half the total workforce is women, girl children often mind younger siblings or do domestic chores. With the heavy work burden and the added responsibility of housework, women do not have much time for union activities. Unions rarely take up matters that impinge upon women's lives. **The high FWPR in the tea industry has not empowered women.**

**Women Employees as Percentage of Total Employees, Assam**



Although the overall FWPR in Assam is high, the majority of women workers are either unpaid or poorly paid and belong to the category of unskilled labour. Though they contribute to the overall economic activity of the State, their productive capacity is under-valued, and they derive little economic benefit from it.

<sup>37</sup> Statistical Handbook, Assam 2001

## G. Women and Unemployment

Social attitudes deny and denigrate women's right to gainful economic participation. Technical jobs involving field work or touring or interacting with men, are not considered 'suitable' for women. Girls are discouraged from training for, or aspiring to, such jobs.

**Unemployment Rates (Usual Principal Status) for the Educated  
(Secondary and Above, 15 years and Above) for Assam and India (1993-94)<sup>38</sup>**

	Rural		Urban	
	Assam	India	Assam	India
Males	308	88	114	69
Females	551	249	471	206
All Persons	334	103	175	89

Throughout the country, as well as in Assam, there is a rural-urban divide, and a pronounced gender differential. Educated unemployment in Assam across all categories is significantly higher than the national average.

- Unemployment among the educated (both males and females) in 1993-94 was nearly three times higher in rural areas and twice as high in urban areas of Assam than the national average. In rural areas, more than half the educated women are unemployed; in urban areas, nearly half are unemployed.
- In urban areas, there are nearly four times more educated unemployed women than educated unemployed males.

The NSS report<sup>39</sup> confirms that graduates find it easier to get jobs. Of every 1,000 graduate women, a little over a third (376) were employed (in rural areas) and about a fifth (214) had secured jobs in urban areas. The employment figures for the less educated are less than 10 percent at each level.

## H. Women in Assam: Looking Back - And Looking Ahead

There is objective data to corroborate the perception that women in Assam, as in other parts of the country are discriminated against and inequitably placed in terms of opportunity and status.

This is true of women in general, and even truer of women who belong to community, income and other inherently disadvantaged groupings. The pattern is not essentially different from that of the country as a whole. **However given Assam's relative lack of growth, the less than adequate provisioning of basic services and the fiscal predicament of the State, women face even more severe disadvantages.**

All over the country, women face harassment, and even violence – at the work place and at home. To a degree, this is also true of Assam, where women increasingly need to cope with aggression, especially domestic violence. According to National Family Health Survey-2 (NFHS-2), 16 percent of women in the State have experienced violence since the age of 15. Although lower than the national average of 21 percent, this is still a matter of concern. Rural illiterate women, according to the survey are most likely to have experienced

<sup>38</sup> NSSO Report 409, based on 50<sup>th</sup> round NSSO

<sup>39</sup> Source- Handbook, 1993, Directorate of Welfare, Assam



violence in some form. Of married women, 14 percent have been beaten or physically mistreated by their husband. **The fact of a 'culture of silence' surrounding the issue of domestic violence makes data collection difficult. These figures could well be under-estimates.**

**Unequal gender relations prevailing within the family lead to an inequitable distribution of household resources.** At the societal level this leads to the continuance of gender asymmetry. It results in the neglect of health and nutrition needs of girl children and women. It reinforces indifference to female education, and constrains the growth and development of women.

#### **Women - Facing Violence and Insecurity**

There is one crucial dimension in which the women of Assam stand out in particular. This is the fact that over a long period of time, over decades and perhaps a generation, they have been confronted with, and faced up to violence – in all of its many manifestations, including insecurity and uncertainty.

Strife and conflict are impediments to growth, to the development of a people and a society, and to the attainment of common goals of equity and justice. The impact of such situations falls disproportionately on women who bear the brunt of violence, irrespective of motivation or antecedent. On them too falls the task of maintaining the vulnerable families and the delicate fabric of society.

It is imperative that the gender dimensions of development and societal advancement be adequately addressed. A possible reason for the development of women being neglected is because women have little say in managing their own affairs or that of society. If women had control over the decision making process they would surely allocate resources and not just to themselves, in a more equitable way than at present.

The participation of women in political processes is therefore important. This must be in a meaningful way, beyond the tokenism of nominating an occasional candidate for an election. In this context, the 73rd and 74th Constitutional Amendment Acts provide an opportunity for women, and for society to redress the gender bias and bring women into the political process.

There is also a need for affirmative action. While some initiatives in employment generation and poverty alleviation schemes have been made, substantial efforts are required if gender equity is to be achieved. Given the social structure of Indian society all the programmes for rural development are family oriented; the focus needs to be shifted to women.

**A sensitive, forward looking and dynamic gender policy must be articulated and detailed. The policy must outline a set of pro-active interventions and create the environment and receptivity required for the policy to be successful. Advocacy and social change must necessarily be a part of this initiative.**

Considering the important role of women in agriculture in Assam, the present policy on agriculture needs revision. Measures for consideration **include appointment of women agricultural extension officers and workers, instituting special training camps for women agriculturists, extending agricultural credit to women and giving pattas on government allotted land to women.** Another important step is to pass State laws on women's right to a share of parental property, particularly landed property.

The weaving skills of the women of Assam represent a potential opportunity. To transform weaving from a household activity to an income generating, market oriented enterprise, will require a well thought out strategy and well-designed interventions. Training, design inputs and market linkages are essential to enable **women to make the most productive use of their skills and resources.**

Gender sensitisation of public functionaries is essential. This is a task that can be performed by the existing training infrastructure of the State through training modules developed in conjunction with Departments and implemented by their personnel. In addition, gender sensitisation exercises will require to be undertaken at all levels, at schools, colleges, villages, offices, in the media, in hospitals and hotels, so as to overcome the traditional mindset.

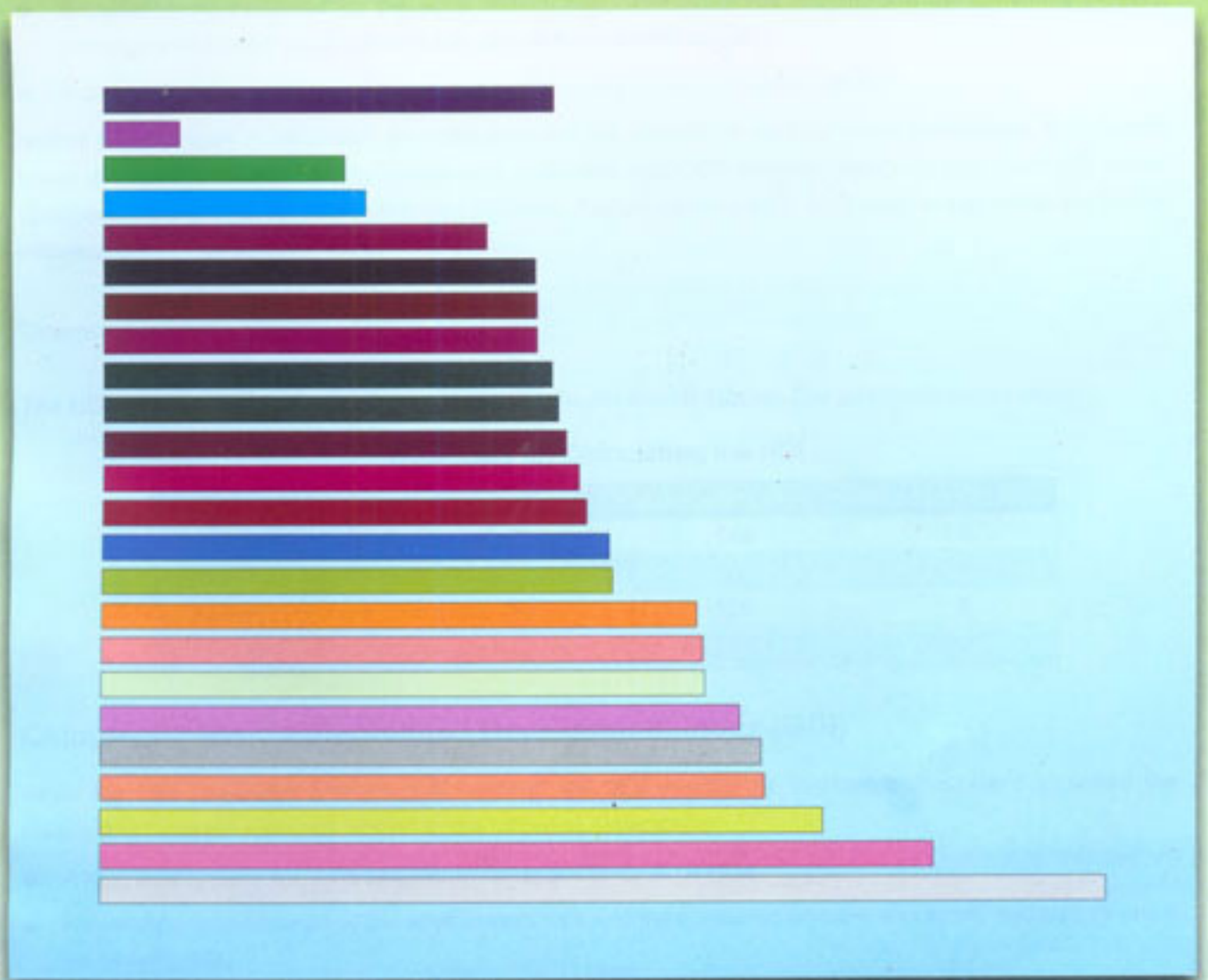
Harassment of women at the work place is an issue that needs to be confronted, through redressal mechanisms that are sensitively designed and approachable by women, by exemplary action against such cases and through awareness. In this context, the 'work ethic' issued by the Government of Assam, a set of mandatory instructions issued for employees to confirm to, is a step forward, but only one step along the path to securing an environment in which women can work with dignity.

Assam's traditional spirit of community participation must be utilised through the involvement of *Mahila Samities* and other village level bodies to bring about a change in orientation of the women themselves, helping them to articulate their needs and aspirations and then providing the opportunities that will help them to achieve their goals.

**Women need to be seen as active partners in the development process and capacity building and skill formation must be an integral part of any programme, which is to have meaningful results.** Without skill formation and imparting management and marketing training, most of the schemes for income generation for rural women do not lead to significant change. **Women require effective interventions in areas like easy credit, marketing outlets and regular supply of raw materials, so that they can engage in a variety of productive activities.** New initiatives in specific thrust areas are required together with a strengthening of the NGO movement especially in rural areas, where sensitisation to issues relating to girl children and women is quite absent.

**Gender development is central to the process of human development. In Assam with its strong traditions of women's involvement in agriculture and production, gender development is pivotal to both economic growth and human development. A new paradigm with women at the core will ensure better participation of men and women and help the society and the economy to grow. A participatory approach to development can give the much-needed thrust to the economy and ensure equality and justice for all.**

# Technical Note



# Technical Note

## Calculating the Human Development Index (HDI)

The HDI is a summary measure of human development. It measures the average achievements in a country in three basic dimensions of human development:

- A long and healthy life, as measured by life expectancy at birth.
- Knowledge, as measured by the adult literacy rate (with two-thirds weight) and the combined primary, secondary and tertiary gross enrolment ratio (with one-third weight).
- A decent standard of living, as measured by Net State Domestic Product (NSDP)

Before the HDI itself is calculated, an index needs to be created for each of these dimensions. To calculate these dimensions indices- the life expectancy, education and GDP indices - minimum and maximum values (goalposts) are chosen for each underlying indicator. Performance in each dimension is expressed as a value between 0 and 1 by applying the general formula:

$$\text{Dimension index} = \frac{\text{actual value} - \text{minimum value}}{\text{maximum value} - \text{minimum value}}$$

The HDI is then calculated as a simple average of the dimension indices. The goalposts are as under:

### Goalposts for Calculating the HDI

Indicator	Maximum value	Minimum value
Infant Mortality Rate (IMR)	140	0
Adult literacy rate (%)	100	0
Combined gross enrolment ratio (%)	100	0
NSDP <sup>1</sup> (Rs.)	27,717	3323

## Calculating the Gender-related Development Index (GDI)

While the HDI measures average achievement, the GDI adjusts the average achievement to reflect the inequalities between men and women in the following dimensions:

- A long and healthy life, as measured by life expectancy at birth.
- Knowledge as measured by the adult literacy rate and the combined primary, secondary and tertiary gross enrolment ratio.

<sup>1</sup> The maximum and minimum values for NSDP refer to the highest and the lowest NSDP in the country, (Chandigarh and Bihar, respectively). Source: Planning Commission, The Draft Tenth Five Year Plan (2002-2007), New Delhi

- A decent standard of living, as measured by estimated earned income (PPP US\$)

The calculation of the GDI involves three steps. First female and male indices in each dimension are calculated according to this general formula:

$$\text{Dimension index} = \frac{\text{actual value} - \text{minimum value}}{\text{maximum value} - \text{minimum value}}$$

Second, the female and male indices in each dimension are combined in a way that penalizes differences in achievement between men and women. The resulting index, referred to as the equally distributed index, is calculated according to this general formula:

$$\text{Equally distributed index} = \{[\text{female population share} (\text{female index}^{1-\varepsilon})] + [\text{male population share} (\text{male index}^{1-\varepsilon})]\}^{1/1-\varepsilon}$$

$\varepsilon$  measures the aversion to inequality. In the GDI  $\varepsilon = 2$ . Thus the general equation becomes

$$\text{Equally distributed index} = \{[\text{female population share} (\text{female index}^{-1})] + [\text{male population share} (\text{male index}^{-1})]\}^{-1}$$

Which gives the harmonic mean of the female and male indices.

Third the GDI is calculated combining the three equally distributed indices in an unweighted average.

### Goalposts for Calculating the GDI

Indicator	Maximum value	Minimum value
Infant Mortality Rate	140	0
Adult literacy rate (%)	100	0
Combined gross enrolment ratio (%)	100	0
Estimated earned income (Rs.)	35,250	800

#### Why $\varepsilon = 2$ in calculating the GDI

The value of  $\varepsilon$  is the size of the penalty for gender inequality. The larger the value, the more heavily a society is penalized for having inequalities.

If  $\varepsilon = 0$ , gender inequality is not penalized (in this case the GDI would have the same value as the HDI). As  $\varepsilon$  increases towards infinity, more and more weight is given to the lesser achieving group.

The value 2 is used in calculating the GDI. This value places a moderate penalty on gender inequality in achievement.

# District Profiles





# DHUBRI



HUMAN DEVELOPMENT INDICES		2003	
Human Development Index (HDI)		0.214	
HDI Rank		23	
Gender Related Development Index (GDI)		0.206	
GDI Rank		21	

POPULATION		1991	2001
Share of State's Population			6.14
Area (sq kms)	2838		
Urban population (%)			11.66
Scheduled Caste population (%)	4.82		
Scheduled Tribe population (%)	2.42		
Density of population (per sq.km)			584

HEALTH		1991	2001
Child Mortality Rate ( up to 5 yrs.)		166	
Crude Birth Rate (per 1,000) No. of::		38.16	
	<i>Hospitals</i>		11
	<i>PHCs</i>		23
	<i>Dispensaries</i>		12
No. of Beds ( <i>per fifteen thousand popn.</i> )			5.34

AGRICULTURE		1991	1999
Average Land Holding Size (in hectares)		1.12	
Gini Co-efficient of Operational Holding		0.483	
Cropping Intensity			163
Per Capita Forest Area			0.02

EMPLOYMENT (%)		1991	2001
Worker Participation Rate::	<i>Rural</i>		28.84
	<i>Urban</i>		29.11
	<i>All</i>		28.87
Share of Primary Sector		75.8	
Share of Secondary Sector		6.2	
Share of Tertiary Sector		18.0	
Total Employment in Agriculture Sector		75.9	
Agricultural Labour		22.1	
Children as Main Workers		5.82	
Share of Female workers			13.52

DISTRICT INFORMATION		1991	2001
Number of inhabited villages		1284	14
Number of CD blocks			
Number of towns		7	

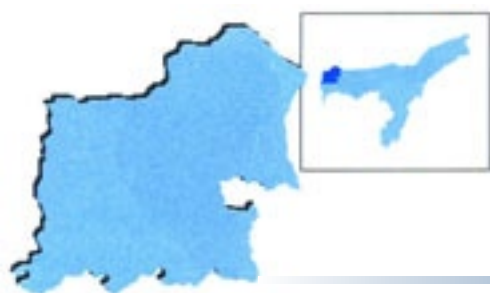
EDUCATION		1991	2001
Literacy Rate (%)		38.38	49.86
	Male literacy rate	47.3	61.9
	Female literacy rate	28.7	42.64
Scheduled Castes	Male literacy rate	55.47	
	Female literacy rate	32.07	
Scheduled Tribes	Male literacy rate	64.22	
	Female literacy rate	42.82	

HOUSEHOLD STATUS (%)		1991
Households in Pucca Houses		na
Households in Semi-Pucca Houses		na
Households in Kutchra Houses		na
Households with access to ::		
	<i>Electricity</i>	11.67
	<i>Safe Drinking Water</i>	56.10
	<i>Toilet Facilities</i>	29.64
	<i>All of the three given above</i>	5.43
	<i>None of the three given above</i>	32.22

GENDER		1991	2001
Infant Mortality (girls)		132	
Child Mortality (girls) up to 5 yrs		162	
Total Fertility Rate		5.12	
Sex Ratio ( no. of females per 1000 males)			
	<i>Rural</i>	953	
	<i>Urban</i>	927	
	<i>Total</i>		944
Scheduled Caste (Sex Ratio)		922	
Scheduled Tribe (Sex Ratio)		981	
Female work participation rate			8.04



# KOKRAJHAR

HUMAN DEVELOPMENT INDICES		2003
Human Development Index (HDI)		0.354
HDIRank		15
Gender Related Development Index (GDI)		0.418
GDI Rank		11

POPULATION	1991	2001
Share of State's Population		3.49
Area(sq kms)	3129	
Urban population (%)		6.84
Scheduled Caste population (%)	3.76	
Scheduled Tribe population (%)	41.15	
Density of population (per sq.km)		294

HEALTH	1991	2001
Child Mortality Rate (up to 5 yrs.)	110	
Crude Birth Rate (per 1,000)	39.67	
No. of: <i>Hospitals</i>		6
<i>PHCs</i>		37
<i>Dispensaries</i>		21
No. of Beds ( <i>per fifteen thousand popn.</i> )		5.71

AGRICULTURE	1991	1999
Average Land Holding Size (in hectares)	1.11	
Gini Co-efficient of Operational Holding	0.488	
Cropping Intensity		159
Per Capita Forest Area		0.17

EMPLOYMENT (%)	1991	2001
Worker Participation Rate:: <i>Rural</i>		37.48
<i>Urban</i>		32.51
<i>All</i>		37.14
Share of Primary Sector	84.0	
Share of Secondary Sector	3.6	
Share of Tertiary Sector	12.4	
Total Employment in Agriculture Sector	84	
Agricultural Labour	16.0	
Children as Main Workers	7.14	
Share of Female workers		33.07

DISTRICT INFORMATION	1991	2001
Number of inhabited villages	923	6
Number of CD blocks	3	
Number of towns		

EDUCATION	1991	2001
Literacy Rate (%)	40.47	52.55
Male literacy rate	49.6	61.9
Female literacy rate	30.9	42.65
Scheduled Castes Male literacy rate	60.37	
Female literacy rate	35.39	
Scheduled Tribes Male literacy rate	52.15	
Female literacy rate	34.68	

HOUSEHOLD STATUS (%)	1991
Households in Pucca Houses	na
Households in Semi-Pucca Houses	na
Households in Kutcha Houses	na
Households with access to ::	
<i>Electricity</i>	12.16
<i>Safe Drinking Water</i>	8.93
<i>Toilet Facilities</i>	14.41
<i>All of the three given above</i>	1.12
<i>None of the three given above</i>	75.05

GENDER	1991	2001
Infant Mortality (girls)	75	
Child Mortality (girls) up to 5 yrs	114	
Total Fertility Rate	5.31	
Sex Ratio (no. of females per 1000 males)		
<i>Rural</i>	944	
<i>Urban</i>	889	
<i>Total</i>		945
Scheduled Caste ( <i>Sex Ratio</i> )	921	
Scheduled Tribe ( <i>Sex Ratio</i> )	963	
Female work participation rate		25.27

# BONGAIGAON



HUMAN DEVELOPMENT INDICES		2003	
Human Development Index (HDI)		0.263	
HDI Rank		21	
Gender Related Development Index (GDI)		0.376	
GDI Rank		16	
POPULATION		1991	2001
Share of State's Population			33.40
Area (sq kms)	2510		
Urban population (%)			12.17
Scheduled Caste population (%)	10.74		
Scheduled Tribe population (%)	17.53		
Density of population (per sq.km)			361
HEALTH		1991	2001
Child Mortality Rate ( up to 5 yrs.)		142	
Crude Birth Rate (per 1,000)		29.26	
No. of::			
	<i>Hospitals</i>		4
	<i>PHCs</i>		23
	<i>Dispensaries</i>		20
No. of Beds (per fifteen thousand popn.)			1.82
AGRICULTURE		1991	1999
Average Land Holding Size (in hectares)		0.96	
Gini Co-efficient of Operational Holding		0.483	
Cropping Intensity			163
Per Capita Forest Area			0.05
EMPLOYMENT (%)		1991	2001
Worker Participation Rate::	<i>Rural</i>		32.71
	<i>Urban</i>		30.68
	<i>All</i>		32.46
Share of Primary Sector		75.1	
Share of Secondary Sector		5.1	
Share of Tertiary Sector		19.8	
Total Employment in Agriculture Sector		74.5	
Agricultural Labour		17.1	
Children as Main Workers		6.64	
Share of Female workers			22.79

DISTRICT INFORMATION		1991	2001
Number of inhabited villages		858	
Number of CD blocks			6
Number of towns		5	
EDUCATION		1991	2001
Literacy Rate (%)		49.06	60.27
	Male literacy rate	58.7	68.81
	Female literacy rate	38.7	51.16
Scheduled Castes	Male literacy rate	55.63	
	Female literacy rate	30.05	
Scheduled Tribes	Male literacy rate	60.45	
	Female literacy rate	39.21	
HOUSEHOLD STATUS (%)		1991	
Households in Pucca Houses		10.04	
Households in Semi-Pucca Houses		15.43	
Households in Kutcha Houses		74.53	
Households with access to ::			
	<i>Electricity</i>	14.1	
	<i>Safe Drinking Water</i>	20.46	
	<i>Toilet Facilities</i>	28.21	
	<i>All of the three given above</i>	4.95	
	<i>None of the three given above</i>	58.99	
GENDER		1991	2001
Infant Mortality (girls)		124	
Child Mortality (girls) up to 5 yrs		150	
Total Fertility Rate		3.97	
Sex Ratio ( no. of females per 1000 males)			
	<i>Rural</i>	949	
	<i>Urban</i>	860	
	<i>Total</i>		945
Scheduled Caste ( <i>Sex Ratio</i> )		907	
Scheduled Tribe ( <i>Sex Ratio</i> )		984	
Female work participation rate			15.23



# GOALPARA

HUMAN DEVELOPMENT INDICES		2003
Human Development Index (HDI)		0.308
HDI Rank		18
Gender Related Development Index (GDI)		0.413
GDI Rank		12

POPULATION		1991	2001
Share of State's Population			3.09
Area (sq kms)	1824		
Urban population (%)			8.18
Scheduled Caste population (%)	5.50		
Scheduled Tribe population (%)	17.23		
Density of population (per sq.km)			451

HEALTH		1991	2001
Child Mortality Rate ( up to 5 yrs.)		133	
Crude Birth Rate (per 1,000)		35.21	
No. of::	<i>Hospitals</i>		6
	<i>PHCs</i>		17
	<i>Dispensaries</i>		11
No. of Beds (per fifteen thousand popn.)			3.78

AGRICULTURE		1991	1999
Average Land Holding Size (in hectares)	1.09		
Gini Co-efficient of Operational Holding	0.488		
Cropping Intensity			129
Per Capita Forest Area			0.04

EMPLOYMENT (%)		1991	2001
<i>Worker Participation Rate::</i>	<i>Rural</i>		33.64
	<i>Urban</i>		30.02
	<i>All</i>		33.34
Share of Primary Sector	75.2		
Share of Secondary Sector	5.2		
Share of Tertiary Sector	19.6		
Total Employment in Agriculture Sector	75.1		
Agricultural Labour	18.8		
Children as Main Workers	5.79		
Share of Female workers			25.71

DISTRICT INFORMATION		1991	2001
Number of inhabited villages		745	
Number of CD blocks			8
Number of towns		2	

EDUCATION		1991	2001
Literacy Rate (%)		46.81	58.6
	Male literacy rate	55.5	61.9
	Female literacy rate	37.6	51.4
Scheduled Castes	Male literacy rate	60.99	
	Female literacy rate	40.6	
Scheduled Tribes	Male literacy rate	67.82	
	Female literacy rate	48.39	

HOUSEHOLD STATUS (%)		1991
Households in Pucca Houses		8.10
Households in Semi-Pucca Houses		14.23
Households in Kutcha Houses		77.67
Households with access to ::		
	<i>Electricity</i>	11.63
	<i>Safe Drinking Water</i>	31.83
	<i>Toilet Facilities</i>	37.89
	<i>All of the three given above</i>	4.58
	<i>None of the three given above</i>	44.73

GENDER		1991	2001
Infant Mortality (girls)		103	
Child Mortality (girls) up to 5 yrs		127	
Total Fertility Rate		4.52	
Sex Ratio ( no. of females per 1000 males)			
	<i>Rural</i>	949	
	<i>Urban</i>	925	
	<i>Total</i>		955
Scheduled Caste (Sex Ratio)		944	
Scheduled Tribe (Sex Ratio)		977	
Female work participation rate			17.6

# BARPETA



HUMAN DEVELOPMENT INDICES		2003	
Human Development Index (HDI)		0.396	
HDI Rank		9	
Gender Related Development Index (GDI)		0.448	
GDI Rank		10	
POPULATION		1991	2001
Share of State's Population			6.17
Area (sq kms)		3245	
Urban population (%)			7.62
Scheduled Caste population (%)		6.54	
Scheduled Tribe population (%)		7.97	
Density of population (per sq.km)			506
HEALTH		1991	2001
Child Mortality Rate ( up to 5 yrs.)		142	
Crude Birth Rate (per 1,000)		43.2	
No. of:			
	Hospitals		5
	PHCs		41
	Dispensaries		20
No. of Beds (per fifteen thousand popn.)			2.87
AGRICULTURE		1991	1999
Average Land Holding Size (in hectares)		1.13	
Gini Co-efficient of Operational Holding		0.47	
Cropping Intensity			1.82
Per Capita Forest Area			0.05
EMPLOYMENT (%)		1991	2001
Worker Participation Rate::	Rural		31.50
	Urban		30.50
	All		31.42
Share of Primary Sector		76.3	
Share of Secondary Sector		5.4	
Share of Tertiary Sector		18.3	
Total Employment in Agriculture Sector		76.3	
Agricultural Labour		16.6	
Children as Main Workers		5.22	
Share of Female workers			21.62

DISTRICT INFORMATION		1991	2001
Number of inhabited villages		1046	
Number of CD blocks			12
Number of towns		7	
EDUCATION		1991	2001
Literacy Rate (%)		43.24	57.35
	Male literacy rate	52.6	68.81
	Female literacy rate	33.2	48.16
Scheduled Castes	Male literacy rate	55.77	
	Female literacy rate	31.83	
Scheduled Tribes	Male literacy rate	54.64	
	Female literacy rate	30.86	
HOUSEHOLD STATUS (%)		1991	
Households in Pucca Houses			7.89
Households in Semi-Pucca Houses			13.21
Households in Kutcha Houses			78.89
Households with access to :			
	Electricity		11.32
	Safe Drinking Water		40.45
	Toilet Facilities		39.42
	All of the three given above		4.61
	None of the three given above		35.08
GENDER		1991	2001
Infant Mortality (girls)		104	
Child Mortality (girls) up to 5 yrs		139	
Total Fertility Rate		6.41	
Sex Ratio ( no. of females per 1000 males)			
	Rural	940	
	Urban	820	
	Total		941
Scheduled Caste (Sex Ratio)		913	
Scheduled Tribe (Sex Ratio)		1003	
Female work participation rate			14.01



# NALBARI

HUMAN DEVELOPMENT INDICES		2003
Human Development Index (HDI)		0.343
HDI Rank		16
Gender Related Development Index (GDI)		0.357
GDI Rank		17

POPULATION	1991	2001
Share of State's Population		4.27
Area (sq kms)	2257	
Urban population (%)		2.41
Scheduled Caste population (%)	8.78	
Scheduled Tribe population (%)	17.67	
Density of population (per sq.km)		504

HEALTH	1991	2001
Child Mortality Rate ( up to 5 yrs.)	117	
Crude Birth Rate (per 1,000)	47.02	
No. of: <i>Hospitals</i>		11
<i>PHCs</i>		43
<i>Dispensaries</i>		14
No. of Beds ( <i>per fifteen thousand popn.</i> )		6.53

AGRICULTURE	1991	1999
Average Land Holding Size (in hectares)	1.71	
Gini Co-efficient of Operational Holding	0.455	
Cropping Intensity		136
Per Capita Forest Area		0.01

EMPLOYMENT (%)	1991	2001
Worker Participation Rate:: <i>Rural</i>		33.79
<i>Urban</i>		30.22
<i>All</i>		33.70
Share of Primary Sector	71.6	
Share of Secondary Sector	7.1	
Share of Tertiary Sector	21.3	
Total Employment in Agriculture Sector	71.7	
Agricultural Labour	18.4	
Children as Main Workers	4.41	
Share of Female workers		25.94

DISTRICT INFORMATION	1991	2001
Number of inhabited villages	803	
Number of CD blocks		12
Number of towns	2	

EDUCATION	1991	2001
Literacy Rate (%)	55.9	68.08
Male literacy rate	66.9	77.12
Female literacy rate	44.2	58.4
Scheduled Castes Male literacy rate	62.77	
Female literacy rate	37.29	
Scheduled Tribes Male literacy rate	56.26	
Female literacy rate	32.71	

HOUSEHOLD STATUS (%)	1991
Households in Pucca Houses	9.52
Households in Semi-Pucca Houses	14.88
Households in Kutcha Houses	75.60
Households with access to : :	
<i>Electricity</i>	12.40
<i>Safe Drinking Water</i>	64.69
<i>Toilet Facilities</i>	18.62
<i>All of the three given above</i>	5.32
<i>None of the three given above</i>	30.09

GENDER	1991	2001
Infant Mortality (girls)	70	
Child Mortality (girls) up to 5 yrs	121	
Total Fertility Rate	6.32	
Sex Ratio ( no. of females per 1000 males)		
<i>Rural</i>	938	
<i>Urban</i>	844	
<i>Total</i>		932
Scheduled Caste ( <i>Sex Ratio</i> )	932	
Scheduled Tribe ( <i>Sex Ratio</i> )	989	
Female work participation rate		18.07



# KAMRUP



HUMAN DEVELOPMENT INDICES		2003
Human Development Index (HDI)		0.574
HDI Rank		2
Gender Related Development Index (GDI)		0.642
GDI Rank		4

POPULATION		1991	2001
Share of State's Population			9.44
Area (sq kms)	4345		
Urban population (%)			35.81
Scheduled Caste population (%)	7.54		
Scheduled Tribe population (%)	10.72		
Density of population (per sq.km)			579

HEALTH		1991	2001
Child Mortality Rate ( up to 5 yrs.)		90	
Crude Birth Rate (per 1,000)		28.32	
No. of::			
	<i>Hospitals</i>		19
	<i>PHCs</i>		51
	<i>Dispensaries</i>		42
No. of Beds (per fifteen thousand popn.)			16.03

AGRICULTURE		1991	1999
Average Land Holding Size (in hectares)			
Gini Co-efficient of Operational Holding	1.14		
Cropping Intensity	0.473	138	
Per Capita Forest Area			0.04

EMPLOYMENT (%)		1991	2001
Worker Participation Rate::			
	<i>Rural</i>		32.80
	<i>Urban</i>		32.65
	<i>All</i>		32.38
Share of Primary Sector		45.6	
Share of Secondary Sector		13.0	
Share of Tertiary Sector		41.4	
Total Employment in Agriculture Sector		45.5	
Agricultural Labour		8.2	
Children as Main Workers		4.46	
Share of Female workers			21.37

DISTRICT INFORMATION		1991	2001
Number of inhabited villages		1300	
Number of CD blocks			17
Number of towns		7	

EDUCATION		1991	2001
Literacy Rate (%)		65.04	74.69
	Male literacy rate	73.7	81.24
	Female literacy rate	55.0	67.3
Scheduled Castes	Male literacy rate	66.77	
	Female literacy rate	45.50	
Scheduled Tribes	Male literacy rate	62.92	
	Female literacy rate	41.83	

HOUSEHOLD STATUS (%)		1991
Households in Pucca Houses		23.22
Households in Semi-Pucca Houses		20.52
Households in Kutcha Houses		56.27
Households with access to ::		
	<i>Electricity</i>	33.82
	<i>Safe Drinking Water</i>	57.71
	<i>Toilet Facilities</i>	49.76
	<i>All of the three given above</i>	18.58
	<i>None of the three given above</i>	20.30

GENDER		1991	2001
Infant Mortality (girls)		78	
Child Mortality (girls) up to 5 yrs		87	
Total Fertility Rate		3.41	
Sex Ratio ( no. of females per 1000 males)			
	<i>Rural</i>	925	
	<i>Urban</i>	791	
	<i>Total</i>		894
Scheduled Caste (Sex Ratio)		907	
Scheduled Tribe (Sex Ratio)		961	
Female work participation rate			14.78



# DARRANG

HUMAN DEVELOPMENT INDICES		2003	
Human Development Index (HDI)		0.259	
HDI Rank		22	
Gender Related Development Index (GDI)		0.317	
GDI Rank		18	
POPULATION		1991	2001
Share of State's Population Area (sq kms)		3481	5.65
Urban population (%)			4.91
Scheduled Caste population (%)		4.95	
Scheduled Tribe population (%)		17.32	
Density of population (per sq.km)			4.32
HEALTH		1991	2001
Child Mortality Rate ( up to 5 yrs.)		131	
Crude Birth Rate (per 1,000)		42.03	
No. of: <i>Hospitals</i>			8
<i>PHCs</i>			35
<i>Dispensaries</i>			14
No. of Beds (per fifteen thousand popn.)			4.2
AGRICULTURE		1991	1999
Average Land Holding Size (in hectares)		1.09	
Gini Co-efficient of Operational Holding		0.658	
Cropping Intensity			131
Per Capita Forest Area			0.01
EMPLOYMENT (%)		1991	2001
Worker Participation Rate::	<i>Rural</i>		36.18
	<i>Urban</i>		32.65
	<i>All</i>		36.01
Share of Primary Sector		84	
Share of Secondary Sector		3.3	
Share of Tertiary Sector		12.7	
Total Employment in Agriculture Sector		83.9	
Agricultural Labour		14	
Children as Main Workers		7.27	
Share of- Female workers			27.98

DISTRICT INFORMATION		1991	2001
Number of inhabited villages		1328	
Number of CD blocks			11
Number of towns		4	
EDUCATION		1991	2001
Literacy Rate (%)		42	55.92
	Male literacy rate	50.8	64.32
	Female literacy rate	32.5	49.95
Scheduled Castes	Male literacy rate	52.57	
	Female literacy rate	31.69	
Scheduled Tribes	Male literacy rate	52.45	
	Female literacy rate	35.51	
HOUSEHOLD STATUS (%)		1991	
Households in Pucca Houses		10.55	
Households in Semi-Pucca Houses		9.47	
Households in Kutcha Houses		79.98	
Households with access to ::			
	<i>Electricity</i>	9	
	<i>Safe Drinking Water</i>	46.66	
	<i>Toilet Facilities</i>	17.05	
	<i>All of the three given above</i>	3.89	
	<i>None of the three given above</i>	46	
GENDER		1991	2001
Infant Mortality (girls)		86	
Child Mortality (girls) up to 5 yrs		131	
Total Fertility Rate		5.46	
Sex Ratio ( no. of females per 1000 males)			
	<i>Rural</i>	942	
	<i>Urban</i>	854	
	<i>Total</i>		943
Scheduled Caste ( <i>Sex Ratio</i> )		919	
Scheduled Tribe ( <i>Sex Ratio</i> )		980	
Female work participation rate			20.76

# SONITPUR



HUMAN DEVELOPMENT INDICES		2003
Human Development Index (HDI)		0.357
HDI Rank		13
Gender Related Development Index (GDI)		0.397
GDI Rank		15

POPULATION	1991	2001
Share of State's Population		6.3
Area (sq kms)	5324	
Urban population (%)		8.81
Scheduled Caste population (%)	5.69	
Scheduled Tribe population (%)	10.71	
Density of population (per sq.km)		315

HEALTH	1991	2001
Child Mortality Rate ( up to 5 yrs.)	108	
Crude Birth Rate (per 1,000)	33.96	
No. of::		
<i>Hospitals</i>		10
<i>PHCs</i>		28
<i>Dispensaries</i>		17
No. of Beds ( <i>per fifteen thousand popn.</i> )		15.19

AGRICULTURE	1991	1999
Average Land Holding Size (in hectares)	1.04	
Gini Co-efficient of Operational Holding	0.618	
Cropping Intensity		151
Per Capita Forest Area		0.09

EMPLOYMENT (%)	1991	2001
Worker Participation Rate::		
<i>Rural</i>		38.14
<i>Urban</i>		32.55
<i>All</i>		37.65
Share of Primary Sector	77.8	
Share of Secondary Sector	4.3	
Share of Tertiary Sector	17.9	
Total Employment in Agriculture Sector	77.8	
Agricultural Labour	11.6	
Children as Main Workers	6.33	
Share of Female workers		31.36

DISTRICT INFORMATION	1991	2001
Number of inhabited villages	1691	
Number of CD blocks		14
Number of towns	4	

EDUCATION	1991	2001
Literacy Rate (%)	48.14	60.3
Male literacy rate	56.7	67.6
Female literacy rate	38.6	52.4
Scheduled Castes		
Male literacy rate	64.01	
Female literacy rate	43.95	
Scheduled Tribes		
Male literacy rate	48.58	
Female literacy rate	29.45	

HOUSEHOLD STATUS (%)	1991
Households in Pucca Houses	18.71
Households in Semi-Pucca Houses	10.82
Households in Kutchra Houses	70.47
Households with access to ::	
<i>Electricity</i>	16.32
<i>Safe Drinking Water</i>	27.50
<i>Toilet Facilities</i>	29.99
<i>All of the three given above</i>	4.26
<i>None of the three given above</i>	50.76

GENDER	1991	2001
Infant Mortality (girls)	77	
Child Mortality (girls) up to 5 yrs	101	
Total Fertility Rate	4.39	
Sex Ratio ( no. of females per 1000 males)		
<i>Rural</i>	919	
<i>Urban</i>	827	
<i>Total</i>		942
Scheduled Caste ( <i>Sex Ratio</i> )	916	
Scheduled Tribe ( <i>Sex Ratio</i> )	958	
Female work participation rate		24.3



# LAKHIMPUR

HUMAN DEVELOPMENT INDICES		2003
Human Development Index (HDI)		0.337
HDI Rank		17
Gender Related Development Index (GDI)		0.491
GDI Rank		8

POPULATION		1991	2001
Share of State's Population			3.34
Area (sq kms)		2277	
Urban population (%)			7.32
Scheduled Caste population (%)		8.01	
Scheduled Tribe population (%)		23.57	
Density of population (per sq.km)			391

HEALTH		1991	2001
Child Mortality Rate ( up to 5 yrs.)		125	
Crude Birth Rate (per 1,000)		34.13	
No. of::	<i>Hospitals</i>		7
	<i>PHCs</i>		23
	<i>Dispensaries</i>		6
No. of Beds ( <i>per fifteen thousand popn.</i> )			5.42

AGRICULTURE		1991	1999
Average Land Holding Size (in hectares)		1.57	
Gini Co-efficient of Operational Holding		0.553	
Cropping Intensity			178
Per Capita Forest Area			0.04

EMPLOYMENT (%)		1991	2001
Worker Participation Rate::	<i>Rural</i>		57.68
	<i>Urban</i>		36.58
	<i>All</i>		56.14
Share of Primary Sector		80.6	
Share of Secondary Sector		3.6	
Share of Tertiary Sector		15.8	
Total Employment in Agriculture Sector		80.6	
Agricultural Labour		6.2	
Children as Main Workers		6.89	
Share of Female workers			43.34

DISTRICT INFORMATION		1991	2001
Number of inhabited villages		1140	
Number of CD blocks			9
Number of towns		2	

EDUCATION		1991	2001
Literacy Rate (%)		58.96	69.59
	Male literacy rate	68.3	78.26
	Female literacy rate	48.8	60.47
Scheduled Castes	Male literacy rate	69.09	
	Female literacy rate	44.70	
Scheduled Tribes	Male literacy rate	62.55	
	Female literacy rate	40.15	

HOUSEHOLD STATUS (%)		1991
Households in Pucca Houses		10.79
Households in Semi-Pucca Houses		14.17
Households in Kutcha Houses		75.04
Households with access to ::		
	<i>Electricity</i>	13.83
	<i>Safe Drinking Water</i>	29.03
	<i>Toilet Facilities</i>	24.88
	<i>All of the three given above</i>	2.66
	<i>None of the three given above</i>	49.84

GENDER		1991	2001
Infant Mortality (girls)		104	
Child Mortality (girls) up to 5 yrs		103	
Total Fertility Rate		4.65	
Sex Ratio ( no. of females per 1000 males)			
	<i>Rural</i>	941	
	<i>Urban</i>	801	
	<i>Total</i>		952
Scheduled Caste ( <i>Sex Ratio</i> )		933	
Scheduled Tribe ( <i>Sex Ratio</i> )		958	
Female work participation rate			49.89

# DHEMAJI



HUMAN DEVELOPMENT INDICES		2003
Human Development Index (HDI)		0.277
HDI Rank		20
Gender Related Development Index (GDI)		0.41
GDI Rank		13

POPULATION		1991	2001
Share of State's Population			2.14
Area (sq kms)	3237		
Urban population (%)			6.91
Scheduled Caste population (%)	6.37		
Scheduled Tribe population (%)	43.92		
Density of population (per sq.km)			176

HEALTH		1991	2001
Child Mortality Rate ( up to 5 yrs.)		139	
Crude Birth Rate (per 1,000)		25.90	
No. of:	<i>Hospitals</i>		3
	<i>PHCs</i>		9
	<i>Dispensaries</i>		5
No. of Beds (per fifteen thousand popn.)			5.66

AGRICULTURE		1991	1999
Average Land Holding Size (in hectares)	1.32		
Gini Co-efficient of Operational Holding	0.493		
Cropping Intensity			160
Per Capita Forest Area			0.11

EMPLOYMENT (%)		1991	2001
<i>Worker Participation Rate::</i>	<i>Rural</i>		45.31
	<i>Urban</i>		31.32
	<i>All</i>		44.3
Share of Primary Sector		85.7	
Share of Secondary Sector		2.3	
Share of Tertiary Sector		12.0	
Total Employment in Agriculture Sector		85.7	
Agricultural Labour		5.0	
Children as Main Workers		9.56	
Share of Female workers			41.66

DISTRICT INFORMATION		1991	2001
Number of inhabited villages		1110	
Number of CD blocks			5
Number of towns		1	

EDUCATION		1991	2001
Literacy Rate (%)		53.84	65.96
	Male literacy rate	65.4	75.15
	Female literacy rate	41.1	56.11
Scheduled Castes	Male literacy rate	52.14	
	Female literacy rate	25.77	
Scheduled Tribes	Male literacy rate	63.08	
	Female literacy rate	35.16	

HOUSEHOLD STATUS (%)		1991
Households in Pucca Houses		3.34
Households in Semi-Pucca Houses		5.06
Households in Kutcha Houses		91.6
Households with access to ::		
	<i>Electricity</i>	3.52
	<i>Safe Drinking Water</i>	48.58
	<i>Toilet Facilities</i>	16.37
	<i>All of the three given above</i>	1.99
	<i>None of the three given above</i>	46.26

GENDER		1991	2001
Infant Mortality (girls)		117	
Child Mortality (girls) up to 5 yrs		138	
Total Fertility Rate		3.25	
Sex Ratio ( no. of females per 1000 males)			
	<i>Rural</i>	932	
	<i>Urban</i>	717	
	<i>Total</i>		936
Scheduled Caste ( <i>Sex Ratio</i> )		917	
Scheduled Tribe ( <i>Sex Ratio</i> )		955	
Female work participation rate			38.20



# MORIGAON

HUMAN DEVELOPMENT INDICES		2003
Human Development Index (HDI)		0.494
HDI Rank		4
Gender Related Development Index (GDI)		0.759
GDI Rank		2

POPULATION	1991	2001
Share of State's Population		2.19
Area (sq kms)	1561	
Urban population (%)		4.91
Scheduled Caste population (%)	13.78	
Scheduled Tribe population (%)	15.40	
Density of population (per sq.km)		455

HEALTH	1991	2001
Child Mortality Rate ( up to 5 yrs.)	136	
Crude Birth Rate (per 1,000)	30.53	
No. of: <i>Hospitals</i>		3
<i>PHCs</i>		13
<i>Dispensaries</i>		15
No. of Beds ( <i>per fifteen thousand popn.</i> )		3.23

AGRICULTURE	1991	1999
Average Land Holding Size (in hectares)	0.9	
Gini Co-efficient of Operational Holding	0.505	
Cropping Intensity		165
Per Capita Forest Area		0.02

EMPLOYMENT (%)	1991	2001
<i>Worker Participation Rate::</i>		
<i>Rural</i>	35.0	34.01
<i>Urban</i>	32.7	32.37
<i>All</i>	34.9	33.93
Share of Primary Sector	82.2	
Share of Secondary Sector	4.9	
Share of Tertiary Sector	12.9	
Total Employment in Agriculture Sector	82.3	
Agricultural Labour	11.6	
Children as Main Workers	5.52	
Share of Female workers		23.38

DISTRICT INFORMATION	1991	2001
Number of inhabited villages	569	
Number of CD blocks		5
Number of towns	3	

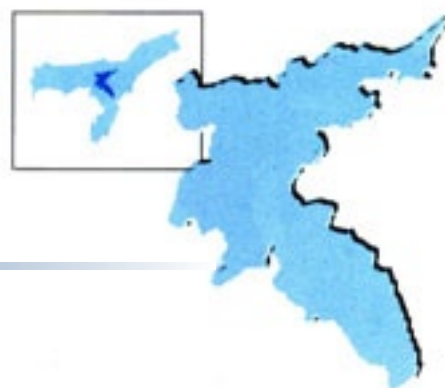
EDUCATION	1991	2001
Literacy Rate (%)	47.99	59.46
Male literacy rate	56.2	66.13
Female literacy rate	39.2	52.36
Scheduled Castes Male literacy rate	58.68	
Female literacy rate	38.37	
Scheduled Tribes Male literacy rate	58.59	
Female literacy rate	35.21	

HOUSEHOLD STATUS (%)	1991
Households in Pucca Houses	6.81
Households in Semi-Pucca Houses	10.27
Households in Kutcha Houses	82.91
Households with access to ::	
<i>Electricity</i>	11.02
<i>Safe Drinking Water</i>	62.67
<i>Toilet Facilities</i>	24.55
<i>All of the three given above</i>	4.16
<i>None of the three given above</i>	27.70

GENDER	1991	2001
Infant Mortality (girls)	97	
Child Mortality (girls) up to 5 yrs	127	
Total Fertility Rate	4.04	
Sex Ratio ( no. of females per 1000 males)		
<i>Rural</i>	9.46	
<i>Urban</i>	847	
<i>Total</i>		945
Scheduled Caste ( <i>Sex Ratio</i> )	925	
Scheduled Tribe ( <i>Sex Ratio</i> )	990	
Female work participation rate		16.33



# NAGAON



HUMAN DEVELOPMENT INDICES		2003
Human Development Index (HDI)		0.356
HDI Rank		14
Gender Related Development Index (GDI)		0.068
GDI Rank		22

POPULATION		1991	2001
Share of State's Population			8.69
Area (sq kms)	3974		
Urban population (%)			12.00
Scheduled Caste population (%)	10.02		
Scheduled Tribe population (%)	3.69		
Density of population (per sq.km)			604

HEALTH		1991	2001
Child Mortality Rate ( up to 5 yrs.)		117	
Crude Birth Rate (per 1,000)		3391	
No. of:	<i>Hospitals</i>		15
	<i>PHCs</i>		38
	<i>Dispensaries</i>		33
No. of Beds (per fifteen thousand popn.)			4.81

AGRICULTURE		1991	1999
Average Land Holding Size (in hectares)	1.08		
Gini Co-efficient of Operational Holding	0.550		
Cropping Intensity			156
Per Capita Forest Area			0.04

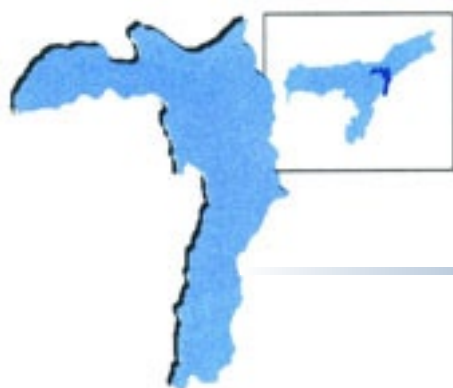
EMPLOYMENT (%)		1991	2001
<i>Worker Participation Rate::</i>	<i>Rural</i>		31.56
	<i>Urban</i>		30.21
	<i>All</i>		31.40
Share of Primary Sector	74.4		
Share of Secondary Sector	6.1		
Share of Tertiary Sector	19.5		
Total Employment in Agriculture Sector	74.3		
Agricultural Labour	14.8		
Children as Main Workers	5.56		
Share of Female workers			18.88

DISTRICT INFORMATION		1991	2001
Number of inhabited villages		1375	
Number of CD blocks			18
Number of towns		7	

EDUCATION		1991	2001
Literacy Rate (%)		54.74	62.28
	Male literacy rate	62.5	68.52
	Female literacy rate	46.3	55.57
Scheduled Castes	Male literacy rate	71.55	
	Female literacy rate	51.57	
Scheduled Tribes	Male literacy rate	63.78	
	Female literacy rate	42.5	

HOUSEHOLD STATUS (%)		1991
Households in Pucca Houses		12.39
Households in Semi-Pucca Houses		12.59
Households in Kutcha Houses		75.02
Households with access to ::		
	<i>Electricity</i>	17.07
	<i>Safe Drinking Water</i>	65.32
	<i>Toilet Facilities</i>	41.77
	<i>All of the three given above</i>	10.67
	<i>None of the three given above</i>	20.50

GENDER		1991	2001
Infant Mortality (girls)		89	
Child Mortality (girls) up to 5 yrs		114	
Total Fertility Rate		4.84	
Sex Ratio ( no. of females per 1000 males)			
	<i>Rural</i>	935	
	<i>Urban</i>	880	
	<i>Total</i>		939
Scheduled Caste ( <i>Sex Ratio</i> )		929	
Scheduled Tribe ( <i>Sex Ratio</i> )		975	
Female work participation rate			12.24



# GOLAGHAT

HUMAN DEVELOPMENT INDICES		2003
Human Development Index (HDI)		0.54
HDI Rank		3
Gender Related Development Index (GDI)		0.608
GDI Rank		7

POPULATION	1991	2001
Share of State's Population		3.55
Area (sq kms)	3502	
Urban population (%)		8.37
Scheduled Caste population (%)	5.59	
Scheduled Tribe population (%)	10.25	
Density of population (per sq.km)		270

HEALTH	1991	2001
Child Mortality Rate ( up to 5 yrs.)	94	
Crude Birth Rate (per 1,000)	32.11	
No. of: <i>Hospitals</i>		6
<i>PHCs</i>		32
<i>Dispensaries</i>		24
No. of Beds (per fifteen thousand popn.)		5.48

AGRICULTURE	1991	1999
Average Land Holding Size (in hectares)	1.30	
Gini Co-efficient of Operational Holding	0.538	
Cropping Intensity		131
Per Capita Forest Area		0.15

EMPLOYMENT (%)	1991	2001
<i>Worker Participation Rate:: Rural</i>		42.30
<i>Urban</i>		33.59
<i>All</i>		41.58
Share of Primary Sector	81.1	
Share of Secondary Sector	4.2	
Share of Tertiary Sector	14.7	
Total Employment in Agriculture Sector	80.9	
Agricultural Labour	8.3	
Children as Main Workers	5.70	
Share of Female workers		35.79

DISTRICT INFORMATION	1991	2001
Number of inhabited villages	1059	
Number of CD blocks		8
Number of towns	3	

EDUCATION	1991	2001
Literacy Rate (%)	58.54	70.36
Male literacy rate	66.5	78.01
Female literacy rate	49.8	62.07
Scheduled Castes Male literacy rate	69.43	
Female literacy rate	48.95	
Scheduled Tribes Male literacy rate	58.34	
Female literacy rate	37.34	

HOUSEHOLD STATUS (%)	1991
Households in Pucca Houses	12.49
Households in Semi-Pucca Houses	16.19
Households in Kutcha Houses	71.31
Households with access to ::	
<i>Electricity</i>	17.33
<i>Safe Drinking Water</i>	59.50
<i>Toilet Facilities</i>	32.32
<i>All of the three given above</i>	10.62
<i>None of the three given above</i>	29.28

GENDER	1991	2001
Infant Mortality (girls)	56	
Child Mortality (girls) up to 5 yrs	91	
Total Fertility Rate	4.39	
Sex Ratio ( no. of females per 1000 males)		
<i>Rural</i>	930	
<i>Urban</i>	767	
<i>Total</i>		929
Scheduled Caste ( <i>Sex Ratio</i> )	916	
Scheduled Tribe ( <i>Sex Ratio</i> )	938	
Female work participation rate		30.90

# JORHAT



HUMAN DEVELOPMENT INDICES		2003
Human Development Index (HDI)		0.65
HDI Rank		1
Gender Related Development Index (GDI)		0.701
GDI Rank		3

POPULATION	1991	2001
Share of State's Population		3.79
Urban population (%)		16.91
Scheduled Caste population (%)	7.61	
Scheduled Tribe population (%)	12.09	
Density of population (per sq.km)		345

HEALTH	1991	2001
Child Mortality Rate ( up to 5 yrs.)	77	
Crude Birth Rate (per 1,000)	31.51	
No. of: : <i>Hospitals</i>		8
<i>PHCs</i>		24
<i>Dispensaries</i>		10
No. of Beds ( <i>per fifteen thousand popn.</i> )		7.64

AGRICULTURE	1991	1999
Average Land Holding Size (in hectares)	1.62	
Gini Co-efficient of Operational Holding	0.578	
Cropping Intensity		134
Per Capita Forest Area		0.02

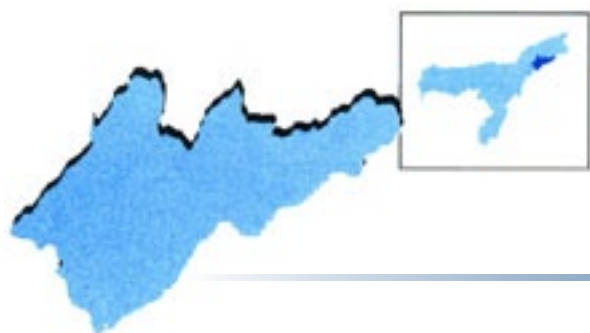
EMPLOYMENT (%)	1991	2001
<i>Worker Participation Rate::</i>		
<i>Rural</i>		43.12
<i>Urban</i>		34.10
<i>All</i>		41.60
Share of Primary Sector	69.4	
Share of Secondary Sector	7.0	
Share of Tertiary Sector	23.6	
Total Employment in Agriculture Sector	68.9	
Agricultural Labour	5.3	
Children as Main Workers	3.80	
Share of Female workers		33.53

DISTRICT INFORMATION	1991	2001
Number of inhabited villages	798	
Number of CD blocks		8
Number of towns	3	

EDUCATION	1991	2001
Literacy Rate (%)	65.51	77.91
Male literacy rate	73.3	82.76
Scheduled Castes	73.84	
Female literacy rate	48.95	
Scheduled Tribes	65.37	
Female literacy rate	44.22	

HOUSEHOLD STATUS (%)	1991
Households in Pucca Houses	23.63
Households in Semi-Pucca Houses	26.47
Households in Kutcha Houses	49.90
Households with access to : :	
<i>Electricity</i>	25.16
<i>Safe Drinking Water</i>	47.28
<i>Toilet Facilities</i>	29.82
<i>All of the three given above</i>	10.48
<i>None of the three given above</i>	35.04

GENDER	1991	2001
Infant Mortality (girls)	48	
Child Mortality (girls) up to 5 yrs	76	
Total Fertility Rate	4.35	
Sex Ratio ( no. of females per 1000 males)		
<i>Rural</i>	928	
<i>Urban</i>	829	
<i>Total</i>		903
Scheduled Caste ( <i>Sex Ratio</i> )	924	
Scheduled Tribe ( <i>Sex Ratio</i> )	968	
Female work participation rate		29.39



# SIBSAGAR

HUMAN DEVELOPMENT INDICES		2003
Human Development Index (HDI)		0.469
HDI Rank		7
Gender Related Development Index (GDI)		0.468
GDI Rank		9

POPULATION	1991	2001
Share of State's Population		3.95
Area (sq kms)	2668	
Urban population (%)		9.22
Scheduled Caste population (%)	3.56	
Scheduled Tribe population (%)	3.80	
Density of population (per sq.km)		395

HEALTH	1991	2001
Child Mortality Rate ( up to 5 yrs.)	89	
Crude Birth Rate (per 1,000)	31.14	
No. of: Hospitals		4
PHCs		30
Dispensaries		19
No. of Beds (per fifteen thousand popn.)		5.23

AGRICULTURE	1991	1999
Average Land Holding Size (in hectares)	1.48	
Gini Co-efficient of Operational Holding	0.583	
Cropping Intensity		113
Per Capita Forest Area		0.03

EMPLOYMENT (%)	1991	2001
Worker Participation Rate:: Rural		41.41
Urban		35.57
All		40.87
Share of Primary Sector	78.8	
Share of Secondary Sector	4.2	
Share of Tertiary Sector	17.0	
Total Employment in Agriculture Sector	75.4	
Agricultural Labour	6.2	
Children as Main Workers	3.98	
Share of Female workers		34.84

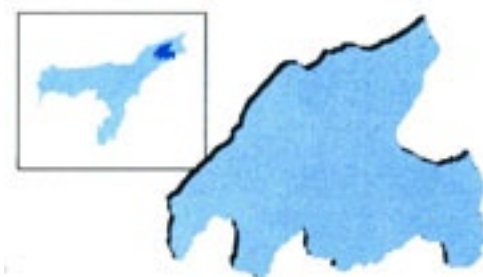
DISTRICT INFORMATION	1991	2001
Number of inhabited villages	873	
Number of CD blocks		9
Number of towns	5	

EDUCATION	1991	2001
Literacy Rate (%)	58.32	75.33
Male literacy rate	56.1	82.08
Female literacy rate	56.1	68
Scheduled Castes Male literacy rate	78.3	
Female literacy rate	61.66	
Scheduled Tribes Male literacy rate	75.46	
Female literacy rate	51.85	

HOUSEHOLD STATUS (%)	1991
Households in Pucca Houses	21.83
Households in Semi-Pucca Houses	27.45
Households in Kutcha Houses	50.71
Households with access to ::	
Electricity	26.72
Safe Drinking Water	54.36
Toilet Facilities	32.18
All of the three given above	13.67
None of the three given above	33.36

GENDER	1991	2001
Infant Mortality (girls)	68	
Child Mortality (girls) up to 5 yrs	92	
Total Fertility Rate	4.30	
Sex Ratio ( no. of females per 1000 males)		
Rural	916	
Urban	802	
Total		926
Scheduled Caste (Sex Ratio)	927	
Scheduled Tribe (Sex Ratio)	959	
Female work participation rate		29.62

# DIBRUGARH



HUMAN DEVELOPMENT INDICES		2003	
Human Development Index (HDI)		0.483	
HDI Rank		6	
Gender Related Development Index (GDI)		0.642	
GDI Rank		4	
POPULATION		1991	2001
Share of State's Population			4.40
Area (sq kms)		3381	
Urban population (%)			18.77
Scheduled Caste population (%)		4.02	
Scheduled Tribe population (%)		7.95	
Density of population (per sq.km)			347
HEALTH		1991	2001
Child Mortality Rate ( up to 5 yrs.)		77	
Crude Birth Rate (per 1,000)		24.39	
No. of: :			
	<i>Hospitals</i>		7
	<i>PHCs</i>		37
	<i>Dispensaries</i>		11
No. of Beds (per fifteen thousand popn.)			17.28
AGRICULTURE		1991	1999
Average Land Holding Size (in hectares)		1.86	
Gini Co-efficient of Operational Holding		0.698	
Cropping Intensity			132
Per Capita Forest Area			0.02
EMPLOYMENT (%)		1991	2001
<i>Worker Participation Rate::</i>			
	<i>Rural</i>		42.32
	<i>Urban</i>		31.97
	<i>All</i>		40.38
Share of Primary Sector		70.7	
Share of Secondary Sector		7.1	
Share of Tertiary Sector		22.2	
Total Employment in Agriculture Sector		68.7	
Agricultural Labour		6.3	
Children as Main Workers		4.05	
Share of Female workers			34.96

DISTRICT INFORMATION		1991	2001
Number of inhabited villages		1306	
Number of CD blocks			7
Number of towns		6	
EDUCATION		1991	2001
Literacy Rate (%)		58.32	71.21
	Male literacy rate	66.7	79.58
	Female literacy rate	48.9	62.1
Scheduled Castes	Male literacy rate	68.51	
	Female literacy rate	50.43	
Scheduled Tribes	Male literacy rate	83.74	
	Female literacy rate	89.5	
HOUSEHOLD STATUS (%)		1991	
Households in Pucca Houses		29.4	
Households in Semi-Pucca Houses		13.06	
Households in Kutcha Houses		57.54	
Households with access to ::			
	<i>Electricity</i>	26.39	
	<i>Safe Drinking Water</i>	67.22	
	<i>Toilet Facilities</i>	48.18	
	<i>All of the three given above</i>	21.11	
	<i>None of the three given above</i>	25.11	
GENDER		1991	2001
Infant Mortality (girls)		45	
Child Mortality (girls) up to 5 yrs		78	
Total Fertility Rate		3.41	
Sex Ratio ( no. of females per 1000 males)			
	<i>Rural</i>	923	
	<i>Urban</i>	826	
	<i>Total</i>		923
Scheduled Caste ( <i>Sex Ratio</i> )		892	
Scheduled Tribe ( <i>Sex Ratio</i> )		989	
Female work participation rate			29.41



# TINSUKIA

HUMAN DEVELOPMENT INDICES		2003
Human Development Index (HDI)		0.377
HDI Rank		10
Gender Related Development Index (GDI)		0.3
GDI Rank		19

POPULATION	1991	2001
Share of State's Population		4.32
Area (sq kms)	3790	
Urban population (%)		19.49
Scheduled Caste population (%)	2.61	
Scheduled Tribe population (%)	5.35	
Density of population (per sq.km)		303

HEALTH	1991	2001
Child Mortality Rate ( up to 5 yrs.)	85	
Crude Birth Rate (per 1,000)	37.33	
No. of: Hospitals		8
PHCs		14
Dispensaries		5
No. of Beds (per fifteen thousand popn.)		3.90

AGRICULTURE	1991	1999
Average Land Holding Size (in hectares)	1.81	
Gini Co-efficient of Operational Holding	0.658	
Cropping Intensity		139
Per Capita Forest Area		0.11

EMPLOYMENT (%)	1991	2001
Worker Participation Rate:: Rural		42.73
Urban		32.68
All		40.77
Share of Primary Sector	73.8	
Share of Secondary Sector	8.4	
Share of Tertiary Sector	17.8	
Total Employment in Agriculture Sector	71.9	
Agricultural Labour	5.8	
Children as Main Workers	5.29	
Share of Female workers		34.92

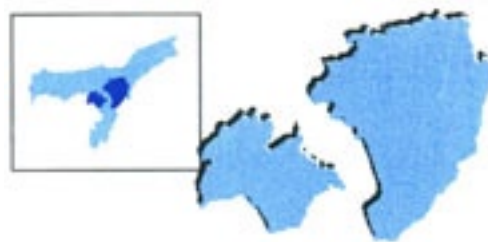
DISTRICT INFORMATION	1991	2001
Number of inhabited villages	1136	
Number of CD blocks		7
Number of towns	6	

EDUCATION	1991	2001
Literacy Rate (%)	50.28	63.28
Male literacy rate	59.3	72.16
Female literacy rate	40.0	53.4
Scheduled Castes Male literacy rate	69.26	
Female literacy rate	49.32	
Scheduled Tribes Male literacy rate	73.79	
Female literacy rate	59.47	

HOUSEHOLD STATUS (%)	1991
Households in Pucca Houses	30.88
Households in Semi-Pucca Houses	11.74
Households in Kutcha Houses	57.38
Households with access to ::	
Electricity	23.88
Safe Drinking Water	73.96
Toilet Facilities	53.65
All of the three given above	18.84
None of the three given above	18.84

GENDER	1991	2001
Infant Mortality (girls)	63	
Child Mortality (girls) up to 5 yrs	80	
Total Fertility Rate	5.05	
Sex Ratio ( no. of females per 1000 males)		
Rural	912	
Urban	788	
Total		909
Scheduled Caste (Sex Ratio)	857	
Scheduled Tribe (Sex Ratio)	943	
Female work participation rate		29.91





# KARBI ANGLONG

HUMAN DEVELOPMENT INDICES		2003
Human Development Index (HDI)		0.494
HDI Rank		4
Gender Related Development Index (GDI)		0.26
GDI Rank		20

POPULATION	1991	2001
Share of State's Population		3.05
Area (sq kms)	10434	
Urban population (%)		11.42
Scheduled Caste population (%)	4.22	
Scheduled Tribe population (%)	51.56	
Density of population (per sq.km)		78

HEALTH	1991	2001
Child Mortality Rate ( up to 5 yrs.)	124	
Crude Birth Rate (per 1,000)	33.07	
No. of: <i>Hospitals</i>		6
<i>PHCs</i>		35
<i>Dispensaries</i>		13
No. of Beds ( <i>per fifteen thousand popn.</i> )		9.07

AGRICULTURE	1991	1999
Average Land Holding Size (in hectares)	1.75	
Gini Co-efficient of Operational Holding	0.423	
Cropping Intensity		142
Per Capita Forest Area		0.41

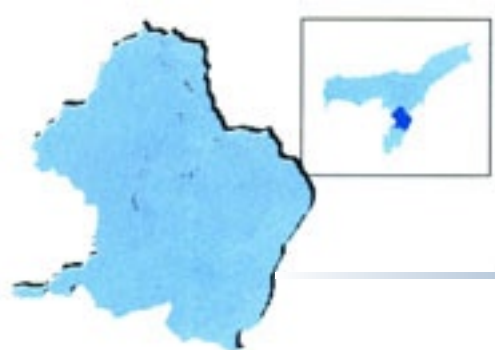
EMPLOYMENT (%)	1991	2001
<i>Worker Participation Rate::</i>		
<i>Rural</i>		41.66
<i>Urban</i>		32.15
<i>All</i>		40.57
Share of Primary Sector	85.0	
Share of Secondary Sector	4.0	
Share of Tertiary Sector	11.0	
Total Employment in Agriculture Sector	84.8	
Agricultural Labour	6.5	
Children as Main Workers	7.08	
Share of Female workers		37.15

DISTRICT INFORMATION	1991	2001
Number of inhabited villages	2520	
Number of CD blocks		11
Number of towns	6	

EDUCATION	1991	2001
Literacy Rate (%)	45.57	58.83
Male literacy rate	56.6	68.11
Female literacy rate	34.3	48.65
Scheduled Castes	58.82	
Male literacy rate	32.26	
Female literacy rate	51.42	
Scheduled Tribes	31.54	
Male literacy rate		
Female literacy rate		

HOUSEHOLD STATUS (%)	1991
Households in Pucca Houses	5.84
Households in Semi-Pucca Houses	4.25
Households in Kutcha Houses	89.92
Households with access to ::	
<i>Electricity</i>	12.94
<i>Safe Drinking Water</i>	33.88
<i>Toilet Facilities</i>	24.94
<i>All of the three given above</i>	5.31
<i>None of the three given above</i>	50.66

GENDER	1991	2001
Infant Mortality (girls)	75	
Child Mortality (girls) up to 5 yrs	124	
Total Fertility Rate	4.36	
Sex Ratio ( no. of females per 1000 males)		
<i>Rural</i>	920	
<i>Urban</i>	804	
<i>Total</i>		922
Scheduled Caste ( <i>Sex Ratio</i> )	881	
Scheduled Tribe ( <i>Sex Ratio</i> )	949	
Female work participation rate		31.42



## N. C. HILLS

HUMAN DEVELOPMENT INDICES		2003
Human Development Index (HDI)		0.363
HDI Rank		11
Gender Related Development Index (GDI)		0.877
GDI Rank		1

POPULATION		1991	2001
Share of State's Population			0.70
Area (sq kms)	4888		
Urban population (%)			31.19
Scheduled Caste population (%)	2.60		
Scheduled Tribe population (%)	65.54		
Density of population (per sq.km)			38

HEALTH		1991	2001
Child Mortality Rate ( up to 5 yrs.)		118	
Crude Birth Rate (per 1,000)		29.74	
No. of:			
	<i>Hospitals</i>		3
	<i>PHCs</i>		12
	<i>Dispensaries</i>		2
No. of Beds (per fifteen thousand popn.)			19.26

AGRICULTURE		1991	1999
Average Land Holding Size (in hectares)		1.56	
Gini Co-efficient of Operational Holding		0.335	
Cropping Intensity			136
Per Capita Forest Area			0.38

EMPLOYMENT (%)		1991	2001
<i>Worker Participation Rate::</i>			
	<i>Rural</i>		39.96
	<i>Urban</i>		32.20
	<i>All</i>		37.54
Share of Primary Sector		64.4	
Share of Secondary Sector		8.0	
Share of Tertiary Sector		27.6	
Total Employment in Agriculture Sector		62.8	
Agricultural Labour		2.2	
Children as Main Workers		3.76	
Share of Female workers			30.49

DISTRICT INFORMATION		1991	2001
Number of inhabited villages		577	
Number of CD blocks			5
Number of towns		3	

EDUCATION		1991	2001
Literacy Rate (%)		57.76	68.59
	Male literacy rate	66.4	68.11
	Female literacy rate	47.3	59.11
Scheduled Castes	Male literacy rate	77.25	
	Female literacy rate	74.37	
Scheduled Tribes	Male literacy rate	61.92	
	Female literacy rate	41.71	

HOUSEHOLD STATUS (%)		1991
Households in Pucca Houses		15.30
Households in Semi-Pucca Houses		11.78
Households in Kutcha Houses		72.92
Households with access to ::		
	<i>Electricity</i>	22.90
	<i>Safe Drinking Water</i>	45.54
	<i>Toilet Facilities</i>	34.61
	<i>All of the three given above</i>	15.15
	<i>None of the three given above</i>	41.16

GENDER		1991	2001
Infant Mortality (girls)		100	
Child Mortality (girls) up to 5 yrs		116	
Total Fertility Rate		3.83	
Sex Ratio ( no. of females per 1000 males)			
	<i>Rural</i>	880	
	<i>Urban</i>	784	
	<i>Total</i>		883
Scheduled Caste ( <i>Sex Ratio</i> )		694	
Scheduled Tribe ( <i>Sex Ratio</i> )		935	
Female work participation rate			24.41

# KARIMGANJ



HUMAN DEVELOPMENT INDICES		2003
Human Development Index (HDI)		0.301
HDI Rank		19
Gender Related Development Index (GDI)		0.012
GDI Rank		23

POPULATION		1991	2001
Share of State's Population			3.77
Area (sq kms)	1809		
Urban population (%)			7.33
Scheduled Caste population (%)	14.58		
Scheduled Tribe population (%)	0.17		
Density of population (per sq.km)			555

HEALTH		1991	2001
Child Mortality Rate ( up to 5 yrs.)		131	
Crude Birth Rate (per 1,000)		48.52	
No. of: <i>Hospitals</i>			2
<i>PHCs</i>			16
<i>Dispensaries</i>			5
No. of Beds (per fifteen thousand popn.)			2.58

AGRICULTURE		1991	1999
Average Land Holding Size (in hectares)	1.70		
Gini Co-efficient of Operational Holding	0.670		
Cropping Intensity			151
Per Capita Forest Area			0.05

EMPLOYMENT (%)		1991	2001
<i>Worker Participation Rate::</i>			
<i>Rural</i>			30.33
<i>Urban</i>			31.48
<i>All</i>			30.41
Share of Primary Sector	69.0		
Share of Secondary Sector	7.9		
Share of Tertiary Sector	23.1		
Total Employment in Agriculture Sector	68.8		
Agricultural Labour	16.6		
Children as Main Workers	3.08		
Share of Female workers			18.92

DISTRICT INFORMATION		1991	2001
Number of inhabited villages		893	
Number of CD blocks			7
Number of towns		3	

EDUCATION		1991	2001
Literacy Rate (%)		54.71	67.21
	Male literacy rate	64	73.9
	Female literacy rate	44.8	60.09
Scheduled Castes	Male literacy rate	60.49	
	Female literacy rate	45.86	
Scheduled Tribes	Male literacy rate	35.48	
	Female literacy rate	20.33	

HOUSEHOLD STATUS (%)		1991
Households in Pucca Houses		13.51
Households in Semi-Pucca Houses		12.23
Households in Kutcha Houses		74.27
Households with access to :		
	<i>Electricity</i>	32.84
	<i>Safe Drinking Water</i>	17.83
	<i>Toilet Facilities</i>	73.17
	<i>All of the three given above</i>	10.85
	<i>None of the three given above</i>	20.39

GENDER		1991	2001
Infant Mortality (girls)		97	
Child Mortality (girls) up to 5 yrs		131	
Total Fertility Rate		7.08	
Sex Ratio ( no. of females per 1000 males)			
	<i>Rural</i>	948	
	<i>Urban</i>	915	
	<i>Total</i>		944
Scheduled Caste ( <i>Sex Ratio</i> )		927	
Scheduled Tribe ( <i>Sex Ratio</i> )		904	
Female work participation rate			11.85



# HAILAKANDI

HUMAN DEVELOPMENT INDICES		2003
Human Development Index (HDI)		0.363
HDI Rank		11
Gender Related Development Index (GDI)		0.609
GDI Rank		6

POPULATION		1991	2001
Share of State's Population			2.04
Area (sq kms)	1327		
Urban population (%)			8.39
Scheduled Caste population (%)	12.05		
Scheduled Tribe population (%)	0.16		
Density of population (per sq.km)			409

HEALTH		1991	2001
Child Mortality Rate ( up to 5 yrs.)		125	
Crude Birth Rate (per 1,000)		32.09	
No. of: :			
	<i>Hospitals</i>		2
	<i>PHCs</i>		8
	<i>Dispensaries</i>		2
No. of Beds (per fifteen thousand popn.)			1.52

AGRICULTURE		1991	1999
Average Land Holding Size (in hectares)		1.57	
Gini Co-efficient of Operational Holding		0.560	
Cropping Intensity			128
Per Capita Forest Area			0.12

EMPLOYMENT (%)		1991	2001
<i>Worker Participation Rate::</i>	<i>Rural</i>		33.66
	<i>Urban</i>		29.78
	<i>All</i>		33.33
Share of Primary Sector		77.3	
Share of Secondary Sector		5.5	
Share of Tertiary Sector		17.2	
Total Employment in Agriculture Sector		77.2	
Agricultural Labour		17.4	
Children as Main Workers		4.52	
Share of Female workers			23.96

DISTRICT INFORMATION		1991	2001
Number of inhabited villages		327	
Number of CD blocks			5
Number of towns		2	

EDUCATION		1991	2001
Literacy Rate (%)		53.07	59.84
	Male literacy rate	64.1	68.47
	Female literacy rate	41	50.7
Scheduled Castes	Male literacy rate	68.11	
	Female literacy rate	51.32	
Scheduled Tribes	Male literacy rate	71.15	
	Female literacy rate	61.96	

HOUSEHOLD STATUS (%)		1991
Households in Pucca Houses		10.22
Households in Semi-Pucca Houses		11.62
Households in Kutcha Houses		78.16
Households with access to ::		
	<i>Electricity</i>	19.03
	<i>Safe Drinking Water</i>	18.54
	<i>Toilet Facilities</i>	60.97
	<i>All of the three given above</i>	8.73
	<i>None of the three given above</i>	32.10

GENDER		1991	2001
Infant Mortality (girls)		97	
Child Mortality (girls) up to 5 yrs		116	
Total Fertility Rate		4.22	
Sex Ratio ( no. of females per 1000 males)			
	<i>Rural</i>	928	
	<i>Urban</i>	944	
	<i>Total</i>		933
Scheduled Caste ( <i>Sex Ratio</i> )		921	
Scheduled Tribe ( <i>Sex Ratio</i> )		911	
Female work participation rate			16.55

# CACHAR



HUMAN DEVELOPMENT INDICES		2003
Human Development Index (HDI)		0.402
HDI Rank		8
Gender Related Development Index (GDI)		0.409
GDI Rank		14

POPULATION	1991	2001
Share of State's Population		5.41
Area (sq kms)	3786	
Urban population (%)		13.97
Scheduled Caste population (%)	14.70	
Scheduled Tribe population (%)	1.36	
Density of population (per sq.km)		381

HEALTH	1991	2001
Child Mortality Rate ( up to 5 yrs.)	116	
Crude Birth Rate (per 1,000)	32.61	
No. of: Hospitals		8
PHCs		22
Dispensaries		2
No. of Beds (per fifteen thousand popn.)		6.93

AGRICULTURE	1991	1999
Average Land Holding Size (in hectares)	2.09	
Gini Co-efficient of Operational Holding	0.543	
Cropping Intensity		122
Per Capita Forest Area		0.1

EMPLOYMENT (%)	1991	2001
Worker force Participation Rate		
Rural		32.33
Urban		31.22
All		32.18
Share of Primary Sector	69.40	
Share of Secondary Sector	6.40	
Share of Tertiary Sector	24.20	
Total Employment in Agriculture Sector	69.10	
Agricultural Labour	17.40	
Children as Main Workers	3.51	
Share of Female workers		20.48

DISTRICT INFORMATION	1991	2001
Number of inhabited villages	1024	
Number of CD blocks		15
Number of towns	2	

EDUCATION	1991	2001
Literacy Rate (%)	59.16	68.42
Male literacy rate	68.8	76.51
Female literacy rate	48.8	59.85
Scheduled Castes		
Male literacy rate	64.5	
Female literacy rate	46.7	
Scheduled Tribes		
Male literacy rate	79.6	
Female literacy rate	63.4	

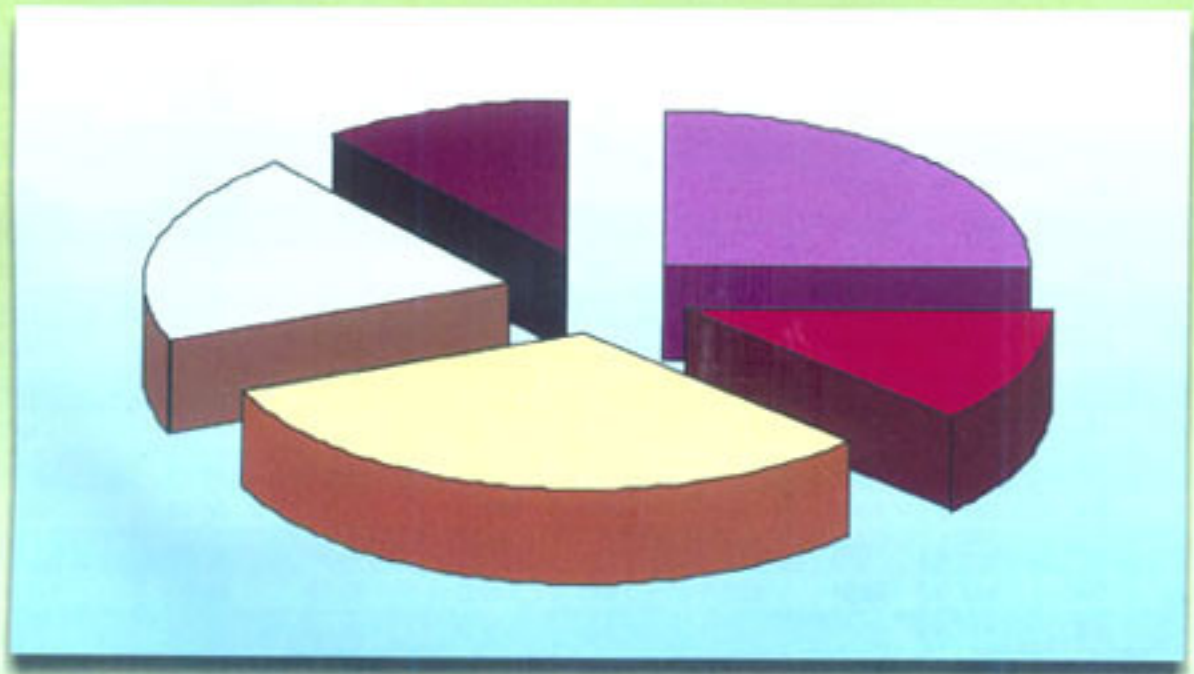
HOUSEHOLD STATUS (%)	1991
Households in Pucca Houses	12.32
Households in Semi-Pucca Houses	18.98
Households in Kutcha Houses	68.65
Households with access to ::	
Electricity	23.28
Safe Drinking Water	20.07
Toilet Facilities	63.26
All of the three given above	9.96
None of the three given above	31.06

GENDER	1991	2001
Infant Mortality (girls)	85	
Child Mortality (girls) up to 5 yrs	111	
Total Fertility Rate	4.12	
Sex Ratio ( no. of females per 1000 males)		
Rural	933	
Urban	920	
Total		945
Scheduled Caste (Sex Ratio)	925	
Scheduled Tribe (Sex Ratio)	982	
Female work participation rate		13.57

# Statistical Annexe

## CONTENTS

Statistical Tables and Charts for 2009







# Statistical Annexe

## INDICES

### Human Development Index, Assam 2003

Districts ranked by HDI, in descending order	Literacy (2001) %	Combined Enrolment Ratio (1991)	Education index	Infant Mortality Rate	IMR index	Per Capita NSDP (2000-2001) at 1993-94 constant prices	Income Index	HDI Index	HDI Rank
Jorhat	77.91	60.73	0.722	47	0.664	11222	0.564	0.650	1
Kamrup	74.69	60.8	0.701	77	0.450	11424	0.573	0.574	2
Golaghat	70.36	54.31	0.650	61	0.564	8021	0.409	0.540	3
Morigaon	59.46	46.39	0.551	88	0.371	11152	0.562	0.494	4
Karbi Anglong	58.83	42.8	0.535	76	0.457	9588	0.491	0.494	4
Dibrugarh	71.21	53.72	0.654	51	0.636	4713	0.162	0.483	6
Sibsagar	75.33	59.92	0.702	75	0.464	5602	0.242	0.469	7
Cachar	68.42	53.34	0.634	97	0.307	5897	0.266	0.402	8
Barpeta	57.35	43.51	0.527	101	0.279	7616	0.385	0.396	9
Tinsukia	63.28	44.72	0.571	73	0.479	3966	0.082	0.377	10
Hailakandi	59.84	49.09	0.563	99	0.293	5507	0.234	0.363	11
NC Hills	68.59	57.69	0.650	108	0.229	5234	0.211	0.363	11
Sonitpur	60.29	45.03	0.552	77	0.450	3869	0.071	0.357	13
Nagaon	62.28	50.43	0.583	97	0.307	4893	0.179	0.356	14
Kokrajhar	52.55	37.17	0.474	78	0.443	4544	0.145	0.354	15
Nalbari	68.08	56.23	0.641	96	0.314	3911	0.076	0.343	16
Lakhimpur	69.59	57.97	0.657	112	0.200	4636	0.154	0.337	17
Goalpara	58.56	43.74	0.536	106	0.243	4548	0.146	0.308	18
Karimganj	67.21	51.45	0.620	111	0.207	3931	0.078	0.301	19
Dhemaji	65.96	54.63	0.622	114	0.186	3511	0.026	0.277	20
Bongaigaon	60.27	46.64	0.557	122	0.129	4150	0.103	0.263	21
Darrang	55.92	42.33	0.514	111	0.207	3755	0.057	0.259	22
Dhubri	49.86	36.49	0.454	128	0.086	4144	0.102	0.214	23
<b>ASSAM</b>	<b>64.28</b>	<b>49.78</b>	<b>0.595</b>	<b>92</b>	<b>0.343</b>	<b>6158</b>	<b>0.286</b>	<b>0.407</b>	

## Gender Related Development Index, Assam 2003

District	Literacy (2001) %		Combined Enrolment Ratio (1991)		IMR		Estimated Earned Income		GDI Index	GDI Rank
	Males	Females	Males	Females	Males	Females	Males	Females		
N.C. Hills	64.7	49.47	60.95	54.16	109	100	35,248	14715	0.877	1
Morigaon	53.95	42.51	48.85	43.8	106	97	31,898	8240	0.759	2
Jorhat	72.55	63.62	64.62	56.75	47	48	20,208	7336	0.701	3
Kamrup	70.66	58.11	64.03	57.46	80	78	20,462	5347	0.642	4
Dibrugarh	68.59	53.25	58.47	48.8	56	45	13,805	6511	0.642	4
Hailakandi	56.06	41.76	54.55	43.37	101	97	17,504	4908	0.609	6
Golaghat	66.83	52.82	58.22	50.31	66	56	13,538	5443	0.608	7
Lakhimpur	65.51	50.52	60.83	52.83	138	104	6,173	4366	0.491	8
Sibsagar	71.22	58.61	63.49	56.29	81	68	7,478	3411	0.468	9
Barpeta	54	39.23	47.36	39.39	97	104	13,595	2629	0.448	10
Kokrajhar	50.7	34.86	42.02	32.31	56	75	5,779	2959	0.418	11
Goalpara	53.1	41.55	47.58	39.65	109	103	9,475	2473	0.413	12
Dhemaji	62.85	46.72	60.2	48.95	113	117	4,690	3148	0.410	13
Cachar	64.88	50.64	56.91	49.68	99	85	10,387	2379	0.409	14
Sonitpur	57.2	43.98	49.9	40.04	75	77	5,936	2621	0.397	15
Bongaigaon	56.86	41.97	50.82	42.23	93	124	7,218	2255	0.376	16
Nalbari	66.31	49.99	60.94	51.33	102	70	6,540	2103	0.357	17
Darrang	53.3	38.64	46.19	38.32	118	86	6,204	1840	0.317	18
Tinsukia	61.24	44.83	49.66	39.84	82	63	3,964	1896	0.300	19
Dhubri	45.37	33.82	41.33	31.27	123	132	7,667	1269	0.206	21
Nagaon	56.53	45.41	52.82	47.93	104	89	4,617	916	0.068	22
Karimganj	61.5	49.65	55.4	47.36	105	97	3,935	818	0.012	23
<b>ASSAM</b>	<b>71.93</b>	<b>56.03</b>	<b>53.81</b>	<b>45.61</b>	<b>96</b>	<b>87.000</b>	<b>6,744</b>	<b>5530</b>	<b>0.537</b>	

## Demographic and Health Indicators

**Table 1: Population Growth, Urbanisation and Age Distribution**

District	Total Population (2001)	Decadal growth Rate (1991-2001)	Density (2001)	Urban Population (as a percentage of total population) (2001)	Population aged 65 and above (1991)	Population under aged 15 years (as a percentage of total population) (1991)	Sex ratio (2001)	
							all	0-6
Dhubri	1634589	23.42	584	11.66	4.34	44.3	944	984
Kokrajhar	930404	15.05	294	6.84	4.20	40.8	945	955
Bongaigaon	906315	12.23	361	12.17	4.39	42.4	945	978
Goalpara	822306	23.07	451	8.18	4.04	43.4	955	975
Barpeta	1642420	18.53	506	7.62	5.04	42.3	941	964
Nalbari	1138184	11.98	504	2.41	4.80	39.5	937	962
Kamrup	2515030	25.75	579	35.81	3.81	37.0	894	939
Darrang	1503943	15.79	432	4.91	4.59	41.1	943	974
Sonitpur	1677874	17.80	315	8.81	4.28	39.6	942	983
Lakhimpur	889325	18.34	391	7.32	4.46	41.6	952	962
Dhemaji	569468	18.93	176	6.91	4.15	45.1	936	957
Morigaon	775874	21.29	455	4.91	4.70	43.0	945	965
Nagaon	2315387	22.30	604	12.00	4.92	41.2	939	981
Golaghat	945781	14.21	270	8.37	3.94	40.1	929	965
Jorhat	1009197	15.84	354	16.91	4.45	36.4	903	901
Sibsagar	1052802	15.95	395	9.22	4.51	36.6	926	966
Dibrugarh	1172056	12.43	347	18.77	4.25	37.2	923	954
Tinsukia	1150146	19.52	303	19.49	3.92	39.3	969	964
K.Anglong	812320	22.57	78	11.42	4.20	42.0	922	973
N.C. Hills	186189	23.47	38	31.19	3.24	38.7	883	951
Karimganj	1003678	21.35	555	7.33	5.51	39.8	944	979
Hailakandi	542978	20.92	409	8.39	4.87	40.4	933	903
Cachar	1442141	18.66	381	13.97	5.25	38.0	945	956

Table 2: Infant and Child Mortality

District	Infant Mortality rate (1991)		Child mortality rate (under five) (1991)	
	Males	Females	Males	Females
Dhubri	123	132	169	162
Kokrajhar	56	75	96	114
Bongaigaon	93	124	135	150
Goalpara	109	103	138	127
Barpeta	97	104	145	139
Nalbari	102	70	113	121
Kamrup	80	78	92	87
Darrang	118	86	131	131
Sonitpur	75	77	115	101
Lakhimpur	138	104	120	130
Dhemaji	113	117	140	138
Morigaon	106	97	141	127
Nagaon	104	89	120	114
Golaghat	66	56	97	91
Jorhat	47	48	78	76
Sibsagar	81	68	85	92
Dibrugarh	56	45	76	78
Tinsukia	82	63	90	80
K.Anglong	76	75	125	124
N.C. Hills	109	100	119	116
Karimganj	105	97	132	131
Hailakandi	101	97	136	116
Cachar	99	85	122	111

Table 3: Access to Sanitation Facilities and Safe Drinking Water

District	Percentage of households with sanitation facilities (1991 Census)	Percentage of households with access to safe drinking water (1991 Census)	Number of hospitals (2000-2001)	Number of PHCs (2000-2001)	Number of rural Family Welfare Planning Centres (2000-2001)	Number of hospital beds per 10,000 population (2000-2001)
Dhubri	29.64	56.10	11	23	7	3
Kokrajhar	14.41	8.93	5	37	7	4
Bongaigaon	28.21	20.46	5	23	3	1
Goalpara	37.89	31.83	5	17	5	2
Barpeta	39.42	40.45	5	41	9	2
Nalbari	18.62	64.69	11	42	7	5
Kamrup	49.76	57.71	19	51	13	10
Darrang	17.05	46.66	8	35	7	3
Sonitpur	29.99	27.50	10	28	7	10
Lakhimpur	24.88	29.03	7	23	4	4
Dhemaji	16.37	48.58	3	9	1	4
Morigaon	24.55	62.67	3	13	30	2
Nagaon	41.77	65.32	15	38	113	3
Golaghat	32.32	59.50	6	32	6	4
Jorhat	29.82	47.28	8	24	6	5
Sibsagar	32.18	54.36	4	30	8	3
Dibrugarh	48.18	67.22	7	37	3	12
Tinsukia	53.65	73.96	8	14	4	3
K.Anglong	24.94	33.88	6	35	8	6
N.C. Hills	34.61	45.54	3	12	3	14
Karimganj	73.17	17.83	2	16	5	2
Hailakandi	60.97	18.54	2	8	4	1
Cachar	63.26	20.07	8	22	8	7

Table 4: Literacy Rates by Gender and Place of Residence

District	Place of residence	Literacy rate (2001)		Literacy rate for Scheduled Tribes (1991)		Literacy rate for Scheduled Castes (1991)		Combined Enrolment Ratio (1991)
		Male	Female	Male	Female	Male	Female	
Dhubri	Rural	52.52	38.46	63.46	42.02	49.73	24.56	36.49
	Urban	84.77	71.21	96.94	82.79	62.84	41.57	
Kokrajhar	Rural	59.47	39.86	51.19	33.65	55.26	28.60	37.17
	Urban	91.34	78.27	91.15	75.83	75.13	55.30	
Bongaigaon	Rural	65.25	46.81	60.07	38.85	52.18	25.78	46.64
	Urban	91.78	80.47	93.53	79.03	78.02	58.50	
Goalpara	Rural	63.67	49.50	67.68	48.16	57.25	36.56	43.74
	Urban	82.58	71.57	76.58	63.98	75.62	55.85	
Barpeta	Rural	63.73	45.54	54.43	30.59	53.63	29.36	43.51
	Urban	90.40	77.04	83.43	69.68	67.82	45.08	
Nalbari	Rural	76.71	57.75	56.22	32.67	62.25	36.66	56.23
	Urban	92.84	83.95	85.71	71.83	75.46	52.33	
Kamrup	Rural	75.77	58.92	60.32	38.46	61.00	36.81	60.80
	Urban	90.07	82.43	80.21	67.32	76.71	61.16	
Darrang	Rural	62.77	45.15	52.13	35.23	49.84	27.65	42.33
	Urban	91.14	80.54	81.43	66.22	70.40	60.54	
Sonitpur	Rural	65.00	49.19	48.04	29.01	62.60	41.77	45.03
	Urban	92.35	84.19	88.88	70.47	74.96	62.42	
Lakhimpur	Rural	77.64	59.29	61.94	39.55	68.94	44.25	57.97
	Urban	85.40	75.50	93.80	86.07	72.43	55.37	
Dhemaji	Rural	74.10	54.70	62.87	34.81	52.06	25.67	54.63
	Urban	88.35	75.22	83.72	75.93	59.29	38.20	
Morigaon	Rural	64.68	50.87	57.82	34.46	57.87	37.55	46.39
	Urban	90.88	80.05	76.94	54.97	73.98	54.09	
Nagaon	Rural	65.68	52.26	63.39	42.00	70.71	50.39	50.43
	Urban	87.23	78.10	75.08	58.84	78.74	61.76	
Golaghat	Rural	76.60	60.00	57.58	36.92	68.27	47.64	54.31
	Urban	92.22	84.72	93.66	80.00	83.11	67.20	
Jorhat	Rural	81.55	70.52	64.87	43.71	74.46	47.08	60.73
	Urban	88.40	82.50	94.92	86.09	69.96	60.83	
Sibsagar	Rural	81.10	66.15	75.04	51.28	77.78	60.57	59.92
	Urban	90.77	86.95	91.06	78.57	81.13	67.83	
Dibrugarh	Rural	76.42	56.13	82.52	89.52	65.18	46.16	53.72
	Urban	91.92	87.49	96.64	89.23	76.51	61.19	
Tinsukia	Rural	67.40	46.71	73.01	58.48	66.83	44.48	44.72
	Urban	89.82	80.37	98.20	92.31	73.78	59.93	
K. Anglong	Rural	65.09	45.05	49.34	29.46	57.26	30.41	42.80
	Urban	89.30	76.37	79.01	61.76	76.08	56.64	
N.C. Hills	Rural	68.04	48.42	57.91	36.91	75.61	75.90	57.69
	Urban	93.32	83.57	88.84	78.01	80.74	72.41	
Karimganj	Rural	71.98	57.69	28.57	16.24	58.54	43.85	51.45
	Urban	95.63	87.37	92.19	80.00	82.53	67.82	
Hailakandi	Rural	66.22	47.38	67.97	61.13	67.23	50.18	49.09
	Urban	91.31	83.17	100.00	81.82	80.85	67.91	
Cachar	Rural	74.00	55.94	79.39	63.21	64.59	46.91	53.34



Table 5: Income and Employment

District	Per capita real income (Rs.) At 1993-94 (constant) prices (1997-98)	Percentage of main workers (2001)		Percentage of workers (2001)		Percentage of non-workers (2001)	
		Males	Females	Males	Females	Males	Females
Dhubri	4360	43.67	4.14	48.55	8.04	51.45	91.96
Kokrajhar	4434	39.78	11.46	48.37	25.27	51.63	74.73
Bongaigaon	5162	43.35	7.08	48.74	15.23	51.26	84.77
Goalpara	4666	42.44	7.54	48.41	17.55	51.59	82.45
Barpeta	8089	42.91	5.70	47.81	14.01	52.19	85.99
Nalbari	4104	41.44	8.00	48.34	18.07	51.66	81.93
Kamrup	12109	43.44	8.07	48.63	14.78	51.37	85.22
Darrang	3891	44.76	8.14	50.39	20.76	49.61	79.24
Sonitpur	4030	42.49	11.76	50.17	24.34	49.83	75.66
Lakhimpur	4970	45.10	18.97	62.08	49.89	37.92	50.11
Dhemaji	3721	38.27	15.87	50.09	38.20	49.91	61.80
Morigaon	4221	44.57	5.81	50.56	16.33	49.44	83.67
Nagaon	4986	42.15	5.31	49.38	12.24	50.62	87.76
Golaghat	5915	42.10	14.02	51.49	30.90	48.51	69.10
Jorhat	8503	42.13	13.39	52.63	29.39	47.37	70.61
Sibsagar	13166	40.02	13.52	51.29	29.62	48.71	70.38
Dibrugarh	12921	41.24	15.65	50.50	29.41	49.50	70.59
Tinsukia	5300	42.06	17.85	50.65	29.91	49.35	70.09
K.Anglong	5637	40.88	14.53	49.02	31.42	50.98	68.58
N.C. Hills	10120	43.50	13.20	49.12	24.41	50.88	75.59
Karimganj	5873	40.40	5.30	47.92	11.85	52.08	88.15
Hailakandi	4187	41.55	8.10	48.99	16.55	51.01	83.45
Cachar	6126	41.85	7.52	49.76	13.57	50.24	86.43

## CHAPTER APPENDICES

### Chapter 2: Income, Employment and Poverty

Table I-1: District-wise Percentage Distribution of Persons by Activity Status, 1991

District	Main Worker			Marginal Worker			Total Worker		
	M	F	P	M	F	P	M	F	P
Dhubri	49.3	3.8	27.2	0.3	4.4	2.3	49.6	8.2	29.4
Kokrajhar	50.5	16.2	33.9	0.2	3.2	1.7	50.7	19.4	35.5
Bongaigaon	48.9	10.4	30.3	0.6	9.4	4.8	49.5	19.8	35.1
Goalpara	48.3	8.9	29.1	0.6	8.7	4.5	48.9	17.6	33.7
Barpeta	47.5	4.0	26.4	0.5	6.9	3.6	47.9	11.0	30.0
Nalbari	45.2	6.5	26.5	0.8	12.8	6.6	46.0	19.4	33.1
Kamrup	48.3	6.4	28.7	0.7	7.5	3.9	49.0	13.9	32.6
Darrang	49.6	11.6	31.2	1.0	17.5	9.0	50.6	29.1	40.2
Sonitpur	50.5	18.6	35.3	1.0	9.3	5.0	51.5	27.9	40.2
Lakhimpur	45.3	18.0	32.1	2.3	19.8	10.7	47.5	37.8	42.9
Dhemaji	45.7	20.5	33.6	2.4	21.1	11.4	48.1	41.6	45.0
Morigaon	50.8	5.5	28.9	0.4	12.0	6.0	51.2	17.5	34.9
Nagaon	49.8	7.2	29.3	0.9	11.9	6.2	50.7	19.1	35.5
Golaghat	47.9	21.9	35.4	1.8	9.7	5.6	49.6	31.6	41.0
Jorhat	46.2	21.5	34.4	1.8	6.3	4.0	48.0	27.8	38.4
Sibsagar	46.9	25.0	36.5	2.7	8.4	5.4	49.6	33.4	41.9
Dibrugarh	46.3	21.8	34.7	2.6	7.4	4.9	48.9	29.1	39.5
Tinsukia	48.6	23.0	36.5	1.8	6.9	4.2	50.3	29.9	40.7
Karbi Anglong	50.4	24.4	38.0	0.7	9.2	4.7	51.1	33.6	42.8
N.C. Hills	51.5	22.8	38.3	0.8	7.2	3.8	52.4	30.0	42.0
Karimganj	47.4	5.2	26.9	0.7	3.4	2.0	48.1	8.6	28.9
Hailakandi	48.9	7.8	29.1	0.7	4.2	2.4	49.6	12.0	31.5
Cachar	48.7	9.3	29.7	0.6	3.8	2.1	49.3	13.1	31.8
<b>ASSAM</b>	<b>48.4</b>	<b>12.6</b>	<b>31.2</b>	<b>1.1</b>	<b>9.0</b>	<b>4.9</b>	<b>49.4</b>	<b>21.6</b>	<b>36.1</b>

Source: Population Census 1991

Table I-2: District-wise Workforce Participation Rate, Assam, 2001

Per 1,000 population

District	Total			Rural			Urban		
	Persons	Males	Females	Persons	Males	Females	Persons	Males	Females
Dhubri	289	486	80	288	485	81	291	492	78
Kokrajhar	371	484	253	375	480	264	325	528	100
Bongaigaon	325	487	152	327	483	162	307	516	77
Goalpara	333	484	175	336	483	183	300	498	87
Barpeta	314	478	140	315	476	144	305	506	91
Nalbari	337	483	181	338	483	183	302	501	83
Kamrup	326	486	148	328	486	158	324	486	129
Darrang	360	504	208	362	502	214	326	536	89
Sonitpur	376	502	243	381	499	257	326	529	100
Lakhimpur	561	621	499	577	626	525	366	553	153
Dhemaji	443	501	382	453	501	402	313	497	103
Morigaon	339	506	163	340	504	167	324	528	91
Nagaon	314	494	122	316	491	129	302	511	72
Golaghat	416	515	309	423	513	327	336	540	101
Jorhat	416	526	294	431	524	329	341	537	118
Sibsagar	409	513	296	414	507	315	356	564	100
Dibrugarh	404	505	294	423	502	339	320	519	89
Tinsukia	408	507	299	427	498	351	327	542	73
Karbi Anglong	406	490	314	417	492	336	321	479	137
N. C. Hills	375	491	244	400	495	294	322	483	127
Karimganj	304	479	119	303	477	120	315	512	106
Hailakandi	333	490	165	337	490	172	298	487	100
Cachar	322	498	136	323	494	142	312	518	97
<b>ASSAM</b>	<b>359</b>	<b>499</b>	<b>208</b>	<b>364</b>	<b>498</b>	<b>223</b>	<b>320</b>	<b>510</b>	<b>103</b>
<b>INDIA</b>	<b>393</b>	<b>519</b>	<b>257</b>	<b>420</b>	<b>524</b>	<b>310</b>	<b>322</b>	<b>508</b>	<b>115</b>

Source: Census of India, 2001

Table I-3(a): Main Workers as a Percentage of Total Population, Assam, 2001

District	Total			Rural			Urban		
	Persons	Males	Females	Persons	Males	Females	Persons	Males	Females
Dhubri	24.47	43.67	4.14	24.18	43.32	3.92	26.69	46.29	5.89
Kokrajhar	26.02	39.78	11.46	25.75	39.03	11.75	29.68	49.85	7.34
Bongaigaon	25.73	43.35	7.08	25.28	42.52	7.14	28.95	49.26	6.59
Goalpara	25.40	42.44	7.54	25.22	42.07	7.61	27.42	46.62	6.69
Barpeta	24.87	42.91	5.70	24.64	42.52	5.66	27.61	47.71	6.19
Nalbari	25.27	41.44	8.00	25.17	41.25	8.01	29.41	49.12	7.71
Kamrup	26.74	43.44	8.07	24.77	41.86	6.37	30.28	46.14	11.28
Darrang	26.99	44.76	8.14	26.79	44.40	8.19	30.75	51.64	7.12
Sonitpur	27.59	42.49	11.76	27.34	41.76	12.09	30.16	49.85	8.30
Lakhimpur	32.36	45.10	18.97	32.30	44.51	19.56	33.12	52.32	11.28
Dhemaji	27.44	38.27	15.87	27.39	37.65	16.48	28.13	46.38	7.32
Morigaon	25.74	44.57	5.81	25.52	44.26	5.75	30.07	50.28	7.07
Nagaon	24.31	42.15	5.31	23.80	41.30	5.25	28.06	48.29	5.82
Golaghat	28.58	42.10	14.02	28.36	41.25	14.56	30.98	50.98	7.87
Jorhat	28.49	42.13	13.39	27.93	40.41	14.20	31.23	50.40	9.35
Sibsagar	27.28	40.02	13.52	26.58	38.46	13.93	34.09	54.44	9.18
Dibrugarh	28.96	41.24	15.65	28.66	39.20	17.42	30.25	49.74	7.65
Tinsukia	30.53	42.06	17.85	30.58	39.80	20.61	30.31	51.00	5.93
Karbi Anglong	28.24	40.88	14.53	28.30	40.45	15.26	27.74	44.07	8.63
N. C. Hills	29.30	43.50	13.20	29.19	42.67	14.38	29.53	45.24	10.46
Karimganj	23.36	40.40	5.30	22.94	39.78	5.09	28.64	48.26	7.87
Hailakandi	25.41	41.55	8.10	25.29	41.22	8.17	26.76	45.25	7.38
Cachar	25.17	41.85	7.52	24.60	40.76	7.46	28.70	48.56	7.90
<b>ASSAM</b>	<b>26.59</b>	<b>42.35</b>	<b>9.68</b>	<b>26.15</b>	<b>41.46</b>	<b>9.86</b>	<b>29.62</b>	<b>48.26</b>	<b>8.40</b>
<b>INDIA</b>	<b>30.55</b>	<b>45.35</b>	<b>14.68</b>	<b>31.03</b>	<b>44.51</b>	<b>16.77</b>	<b>29.30</b>	<b>47.46</b>	<b>9.12</b>

Table I-3 (b): Marginal Workers as a Percentage of Total Population, Assam, 2001

District	Total			Rural			Urban		
	Persons	Males	Females	Persons	Males	Females	Persons	Males	Females
Dhubri	15.24	10.05	48.42	16.16	10.60	51.49	8.30	5.95	24.13
Kokrajhar	29.96	17.75	54.67	31.31	18.75	55.43	8.70	5.63	26.62
Bongaigaon	20.74	11.06	53.53	22.70	12.05	56.04	5.64	4.46	14.36
Goalpara	23.82	12.33	57.03	25.03	12.89	58.44	8.64	6.32	23.00
Barpeta	20.86	10.25	59.33	21.76	10.65	60.74	9.50	5.66	32.17
Nalbari	25.02	14.27	55.71	25.51	14.59	56.25	2.66	1.93	7.52
Kamrup	18.10	10.67	45.42	24.48	13.91	59.57	6.50	5.15	12.58
Darrang	25.05	11.16	60.79	25.95	11.59	61.64	5.82	3.74	20.03
Sonitpur	26.72	15.31	51.69	28.32	16.32	52.96	7.36	5.70	17.14
Lakhimpur	42.35	27.34	61.97	44.00	28.94	62.76	9.46	5.38	26.22
Dhemaji	38.12	23.59	58.46	39.55	24.88	59.00	10.18	6.70	29.26
Morigaon	24.14	11.85	64.41	24.97	12.24	65.55	7.12	4.85	22.14
Nagaon	22.56	14.64	56.60	24.58	15.95	59.39	7.12	5.57	19.16
Golaghat	31.26	18.25	54.62	32.97	19.52	55.50	7.78	5.51	21.86
Jorhat	31.52	19.95	54.44	35.23	22.89	56.86	8.43	6.09	20.61
Sibsagar	33.26	21.98	54.36	35.80	24.20	55.74	4.15	3.51	8.58
Dibrugarh	28.28	18.33	46.78	32.27	21.86	48.68	5.38	4.14	13.81
Tinsukia	25.12	16.97	40.32	28.44	20.01	41.35	7.24	5.91	18.89
Karbi Anglong	30.40	16.60	53.75	32.06	17.72	54.59	13.72	7.99	37.11
N. C. Hills	21.96	11.45	45.92	26.95	13.86	51.15	8.28	6.24	17.69
Karimganj	23.20	15.70	55.30	24.36	16.54	57.39	9.01	5.79	25.54
Hailakandi	23.77	15.18	51.04	24.87	15.90	52.40	10.17	7.10	25.91
Cachar	21.77	15.90	44.56	23.92	17.54	47.46	8.07	6.17	18.66
<b>ASSAM</b>	<b>9.29</b>	<b>7.58</b>	<b>11.12</b>	<b>10.30</b>	<b>8.31</b>	<b>12.42</b>	<b>2.36</b>	<b>2.77</b>	<b>1.89</b>
<b>INDIA</b>	<b>8.71</b>	<b>6.59</b>	<b>10.99</b>	<b>10.94</b>	<b>7.85</b>	<b>14.21</b>	<b>2.93</b>	<b>3.38</b>	<b>2.43</b>

Source: Census of India, 2001

Table I-4: District-wise Percentage Distribution of Workers by Age and Sex (1991)

District	5 – 14			15 - 59			60 +		
	M	F	P	M	F	P	M	F	P
Dhubri	9.97	1.46	5.82	84.88	14.99	51.10	72.87	6.35	39.88
Kokrajhar	9.12	5.11	7.14	81.92	32.15	57.92	71.74	15.83	47.55
Bongaigaon	8.42	4.75	6.64	82.70	34.22	59.40	68.85	14.48	43.45
Goalpara	8.00	3.47	5.79	83.52	31.33	58.39	69.39	13.12	41.41
Barpeta	8.30	2.00	5.22	79.74	19.48	50.81	69.95	7.19	39.22
Nalbari	5.12	3.65	4.41	74.52	32.38	54.25	65.98	13.57	41.21
Kamrup	5.26	3.65	4.46	75.02	22.49	51.34	60.67	9.05	37.08
Darrang	8.88	5.57	7.27	82.59	49.72	66.65	70.77	19.94	49.04
Sonitpur	6.97	5.67	6.33	82.84	46.89	65.93	64.75	19.04	45.24
Lakhimpur	6.96	6.83	6.89	79.23	66.68	73.25	61.94	24.43	45.21
Dhemaji	8.54	10.60	9.56	83.16	75.26	76.41	72.09	33.07	55.49
Morigaon	9.74	3.07	5.42	86.11	31.23	59.58	74.53	13.80	46.91
Nagaon	8.18	2.84	5.56	83.57	33.74	59.84	65.87	13.45	41.83
Golaghat	5.80	5.59	5.70	81.25	53.83	68.27	56.70	18.08	40.31
Jorhat	3.89	3.70	3.80	75.53	45.27	61.14	52.87	14.84	36.90
Sibsagar	3.96	4.00	3.98	78.44	24.60	67.32	53.16	17.72	38.64
Dibrugarh	3.41	4.71	4.05	77.74	47.88	63.72	54.06	16.25	38.19
Tinsukia	5.10	5.49	5.29	81.80	50.34	67.17	55.47	17.55	40.07
Karbi Anglong	7.04	7.12	7.08	83.95	58.44	72.02	76.83	34.14	59.88
N.C. Hills	3.52	4.01	3.76	82.59	50.20	68.12	73.73	41.38	61.32
Karimganj	4.89	1.20	3.08	80.14	14.78	48.52	56.47	7.13	33.73
Hailakandi	6.68	2.31	4.52	81.31	20.67	52.51	63.01	8.40	38.72
Cachar	4.67	2.34	3.51	79.48	21.96	52.09	57.63	8.81	35.70
<b>ASSAM</b>	<b>6.80</b>	<b>4.07</b>	<b>5.46</b>	<b>80.48</b>	<b>37.00</b>	<b>59.86</b>	<b>64.05</b>	<b>14.20</b>	<b>41.72</b>

Source: Population Census, 1991

Table I-5: Percentage of Main Workers by Sector

	Primary		Secondary		Tertiary		All	
	1971	1991	1971	1991	1971	1991	1971	1991
Males	76.70	71.00	4.94	6.09	18.36	22.91	100	100
Females	81.07	86.50	6.97	3.34	11.96	10.16	100	100
Persons	77.04	73.99	5.10	5.56	17.86	20.45	100	100

Source: Population Census, 1991



Table I-6: Percentage Distribution of Main Workers by Sector and District (1991)

District	Primary			Secondary			Tertiary		
	M	F	T	M	F	T	M	F	T
Dhubri	76.3	69.4	75.8	6.00	8.5	6.2	17.7	22.1	18.0
Kokrajhar	81.7	91.9	84.0	4.1	1.5	3.6	14.2	6.6	12.4
Bongaigaon	72.8	86.0	75.1	5.4	3.3	5.1	21.8	10.7	19.8
Goalpara	74.4	80.2	75.2	5.0	6.8	5.2	20.6	13.0	19.6
Barpeta	76.4	75.1	76.3	5.4	7.7	5.4	18.2	17.2	18.3
Nalbari	71.5	72.8	71.6	6.4	12.1	7.1	22.1	15.1	21.3
Kamrup	46.1	41.4	45.6	12.6	17.1	13.0	41.3	41.5	41.4
Darrang	82.6	90.3	84.0	3.5	3.0	3.3	13.9	6.7	12.7
Sonitpur	73.3	91.2	77.8	5.1	2.0	4.3	21.6	6.8	17.9
Lakhimpur	76.2	92.3	80.6	4.5	0.9	3.6	19.3	6.8	15.8
Dhemaji	81.7	95.1	85.7	3.0	0.7	2.3	15.3	4.2	12.0
Morigaon	82.4	80.3	82.2	5.0	6.0	4.9	12.6	13.7	12.9
Nagaon	73.5	81.1	74.4	6.3	4.8	6.1	20.2	14.1	19.5
Golaghat	76.0	93.3	81.1	5.5	1.4	4.2	18.5	5.3	14.7
Jorhat	61.4	88.5	69.4	8.7	2.6	7.0	29.9	8.9	23.6
Sibsagar	71.8	93.2	78.8	5.8	1.0	4.2	22.4	5.8	17.0
Dibrugarh	62.0	91.4	70.7	9.5	1.1	7.1	28.5	7.5	22.2
Tinsukia	65.4	93.8	73.8	11.3	1.2	8.4	23.2	5.0	17.8
Karbi Anglong	80.9	94.3	85.0	5.2	1.3	4.0	13.9	4.4	11.0
N.C.Hills	56.8	84.1	64.4	10.4	1.7	8.0	32.8	14.2	27.6
Karimganj	69.3	66.1	69.0	7.4	12.8	7.9	23.3	21.1	23.1
Hailakandi	76.8	80.6	77.3	5.5	5.0	5.5	17.7	14.4	17.2
Cachar	67.3	81.3	69.4	6.8	3.8	6.4	25.9	14.9	24.2
<b>ASSAM</b>	<b>74.0</b>	<b>86.5</b>	<b>74.0</b>	<b>6.7</b>	<b>3.4</b>	<b>6.1</b>	<b>22.3</b>	<b>10.1</b>	<b>20.0</b>

Source: Population Census, 1991

Table I-7: Percentage of Non-workers to Total Population, Assam , 1991

District	Non-workers					
	Seeking Work			Others		
	Males	Females	Persons	Males	Females	Persons
Dhubri	1.11	0.83	0.97	49.29	90.97	69.63
Kokrajhar	2.45	2.29	2.37	46.85	78.31	62.13
Bongaigaon	2.06	1.53	1.80	48.44	78.67	63.10
Goalpara	1.47	1.04	1.26	49.63	81.36	65.04
Barpeta	2.11	1.11	1.63	49.99	87.89	68.37
Nalbari	2.74	1.38	2.08	51.26	79.22	64.82
Kamrup	3.18	2.27	2.75	47.82	83.83	64.65
Darrang	1.41	0.89	1.16	47.99	70.01	58.64
Sonitpur	1.73	1.48	1.61	46.77	70.62	58.19
Lakhimpur	2.52	2.25	2.39	49.98	59.95	54.71
Dhemaji	0.97	0.75	0.87	50.93	57.65	54.13
Morigaon	1.14	0.91	1.03	47.66	81.59	64.07
Nagaon	1.47	1.03	1.25	47.83	79.87	63.25
Golaghat	1.85	1.38	1.63	48.55	67.02	57.37
Jorhat	2.58	1.82	2.21	49.42	70.38	59.39
Sibsagar	2.29	1.67	2.00	48.11	64.93	56.10
Dibrugarh	1.95	1.64	1.80	49.15	69.26	58.70
Tinsukia	1.89	1.20	1.57	47.81	68.90	57.73
Karbi Anglong	0.63	0.44	0.54	48.27	65.96	56.66
N.C.Hills	0.91	1.03	0.97	46.69	68.97	57.03
Karimganj	1.91	2.14	2.02	49.99	89.26	69.08
Hailakandi	1.90	1.88	1.89	48.50	86.12	66.61
Cachar	1.66	2.02	1.84	49.04	84.88	66.36
<b>ASSAM</b>	<b>1.92</b>	<b>1.46</b>	<b>1.70</b>	<b>48.68</b>	<b>76.94</b>	<b>62.20</b>

Source: Population Census, 1991

Table I-8: Percentage of Non-workers to Total Population, Assam, 2001

District	Total			Rural			Urban		
	Persons	Males	Females	Persons	Males	Females	Persons	Males	Females
Dhubri	71.13	51.45	91.96	71.16	51.54	51.30	70.89	50.78	92.24
Kokrajhar	62.86	51.63	74.73	62.52	51.97	50.63	67.49	47.18	90.00
Bongaigaon	67.54	51.26	84.77	67.29	51.66	50.88	69.32	48.44	92.31
Goalpara	66.66	51.59	82.45	66.36	51.71	50.45	69.98	50.23	91.32
Barpeta	68.58	52.19	85.99	68.50	52.42	50.55	69.50	49.42	90.88
Nalbari	66.30	51.66	81.93	66.21	51.70	51.52	69.78	49.91	91.66
Kamrup	67.35	51.37	85.22	67.20	51.38	52.34	67.62	51.36	87.10
Darrang	63.99	49.61	79.24	63.82	49.78	53.07	67.35	46.36	91.10
Sonitpur	62.35	49.83	75.66	61.86	50.09	52.77	67.45	47.14	89.99
Lakhimpur	43.86	37.92	50.11	42.32	37.36	65.41	63.42	44.70	84.72
Dhemaji	55.66	49.91	61.80	54.69	49.88	53.27	68.68	50.29	89.66
Morigaon	66.07	49.44	83.67	65.99	49.56	53.18	67.63	47.16	90.92
Nagaon	68.60	50.62	87.76	68.44	50.87	52.12	69.79	48.86	92.80
Golaghat	58.42	48.51	69.10	57.70	48.74	54.84	66.41	46.05	89.93
Jorhat	58.40	47.37	70.61	56.88	47.59	57.66	65.90	46.33	88.23
Sibsagar	59.13	48.71	70.38	58.59	49.26	54.09	64.43	43.59	89.96
Dibrugarh	59.62	49.50	70.59	57.68	49.83	53.50	68.03	48.11	91.13
Tinsukia	59.23	49.35	70.09	57.27	50.24	53.84	67.32	45.79	92.69
Karbi Anglong	59.43	50.98	68.58	58.34	50.83	52.80	67.85	52.10	86.28
N. C. Hills	62.46	50.88	75.59	60.04	50.46	54.40	67.80	51.75	87.29
Karimganj	69.59	52.08	88.15	69.67	52.34	50.51	68.52	48.78	89.42
Hailakandi	66.67	51.01	83.45	66.34	50.99	52.65	70.22	51.29	90.04
Cachar	67.82	50.24	86.43	67.67	50.57	52.42	68.78	48.24	90.28
<b>ASSAM</b>	<b>64.12</b>	<b>50.07</b>	<b>79.20</b>	<b>63.55</b>	<b>50.23</b>	<b>77.72</b>	<b>68.02</b>	<b>48.97</b>	<b>89.71</b>
<b>INDIA</b>	<b>60.74</b>	<b>48.07</b>	<b>74.32</b>	<b>58.03</b>	<b>47.64</b>	<b>69.02</b>	<b>67.77</b>	<b>49.15</b>	<b>88.45</b>

Source: Census of India, 2001

Table I-9: Unemployment Rates (Usual Principal Status) for the Educated (15 years and above)

	Rural		Urban	
	Male	Female	Male	Female
<b>ASSAM</b>	<b>308</b>	<b>551</b>	<b>114</b>	<b>471</b>
<b>INDIA</b>	<b>88</b>	<b>249</b>	<b>69</b>	<b>206</b>

Source: NSS 50<sup>th</sup> Round 1993-94

Table I-10: District-wise Estimates of Human Poverty Index and its Components, Assam 1999

(Variant A)

District	P1	P2	P3(A)	P31	P32	P33	HPI (A)	HPI Rank
Sibsagar	7.62	9.0	12.87	17.8	11.1	9.7	10.31	1
Dibrugarh	7.20	14.4	16.93	13.6	8.2	29.0	13.98	2
Golaghat	9.61	12.9	18.33	18.9	8.7	27.4	14.52	3
Nalbari	10.26	15.5	18.83	15.9	3.9	36.7	15.63	4
Kamrup	7.28	19.8	19.83	29.4	4.2	25.9	17.44	5
Nagaon	10.62	21.6	21.43	17.3	2.6	44.4	19.16	6
Dhemaji	9.21	17.1	25.63	14.5	29.1	33.3	19.60	7
Lakhimpur	10.87	14.2	27.47	37.2	25.5	19.7	20.23	8
Morigaon	14.58	21.0	23.33	10.7	10.0	49.3	20.28	9
Jorhat	7.46	12.6	30.83	37.8	15.2	39.5	21.94	10
Barpeta	11.06	27.6	23.73	26.8	9.8	34.6	22.83	11
Darrang	11.01	31.5	17.53	33.3	9.5	9.8	23.30	12
Bongaigaon	13.62	20.1	31.43	45.2	25.6	23.5	24.03	13
Sonitpur	7.96	23.2	31.80	51.2	10.2	34.0	24.68	14
Goalpara	12.99	28.8	30.57	57.7	8.2	25.8	26.30	15
Hailakandi	10.09	15.6	37.87	75.9	5.9	31.8	27.00	16
Tinsukia	8.52	28.3	37.10	7.9	34.7	68.7	29.14	17
Cachar	13.88	23.5	39.00	66.7	10.9	39.4	29.22	18
N.C.Hills	13.37	29.7	40.17	73.3	27.6	19.6	31.44	19
Kokrajhar	10.86	23.3	43.10	57.9	23.8	47.6	31.51	20
Dhubri	12.18	39.6	32.50	23.5	14.4	59.6	31.98	21
Karimganj	11.58	19.9	46.77	78.1	15.3	46.9	33.38	22
Karbi-Anglong	8.13	36.0	40.40	59.7	37.9	23.6	33.52	23
<b>ASSAM TOTAL</b>	<b>11.03</b>	<b>22.5</b>	<b>29.23</b>	<b>36.4</b>	<b>13.7</b>	<b>37.6</b>	<b>23.24</b>	

P1 denotes the percentage of people not expected to survive to age 40

P2 denotes the percentage of illiterate persons

P3 denotes the deprivation in a decent standard of living given by the average value of P31,P32,P33

P31 denotes the percentage of people without safe drinking water

P32 denotes the percentage of people without access to health care

P33 denotes the percentage of moderately and severely underweight children at birth

Table I-11: **District-wise Indicators of Human Poverty  
and Human Poverty Index Assam, 1999**

(Variant B)

District	P1	P2	P3(B)	P31	P32	P33	P34	P35	HPI (B)	HPI Rank
Sibsagar	7.62	9.0	34.82	17.8	11.1	9.7	68.4	67.1	24.28	1
Dibrugarh	7.2	14.4	33.98	13.6	8.2	29.0	59.2	59.9	24.30	2
Kamrup	7.28	19.8	33.52	29.4	4.2	25.9	53.5	54.6	24.72	3
Nagaon	10.62	21.6	41.86	17.3	2.6	44.4	70.2	74.8	30.33	4
Golaghat	9.61	12.9	44.14	18.9	8.7	27.4	82.9	82.8	30.84	5
Jorhat	7.46	12.6	44.96	37.8	15.2	39.5	64.5	67.8	31.33	6
Lakhimpur	10.87	14.2	46.88	37.2	25.5	19.7	76.8	75.2	32.81	7
Nalbari	10.26	15.5	47.12	15.9	3.9	36.7	90.8	88.3	33.04	8
Tinsukia	8.52	28.3	45.30	7.9	34.7	68.7	49.4	65.8	33.71	9
Morigaon	14.58	21.0	47.56	10.7	10.0	49.3	82.8	85.0	34.06	10
Darrang	11.01	31.5	45.02	33.3	9.5	9.8	84.7	87.8	34.43	11
Sonitpur	7.96	23.2	48.30	51.2	10.2	34.0	72.4	73.7	34.60	12
Barpeta	11.06	27.6	47.94	26.8	9.8	34.6	85.8	82.7	35.22	13
Bongaigaon	13.62	20.1	49.82	45.2	25.6	23.5	76.9	77.9	35.37	14
Dhemaji	9.21	17.1	52.94	14.5	29.1	33.3	94.0	93.8	37.03	15
Goalpara	12.99	28.8	54.48	57.7	8.2	25.8	89.4	91.3	39.55	16
Cachar	13.88	23.5	55.88	66.7	10.9	39.4	81.5	80.9	39.71	17
Karimganj	11.58	19.9	57.30	78.1	15.3	46.9	75.5	70.7	40.22	18
Hailakandi	10.09	15.6	58.94	75.9	5.9	31.8	87.9	93.2	41.02	19
Dhubri	12.18	39.6	54.26	23.5	14.4	59.6	83.2	90.6	41.92	20
N.C.Hills	13.37	29.7	59.18	73.3	27.6	19.6	83.8	91.6	42.66	21
Kokrajhar	10.86	23.3	60.64	57.9	23.8	47.6	84.8	89.1	42.73	22
Karbi Anglong	8.13	36.0	60.32	59.7	37.9	23.6	89.7	90.7	44.44	23
<b>ASSAM</b>	<b>11.03</b>	<b>22.5</b>	<b>47.88</b>	<b>36.4</b>	<b>13.7</b>	<b>37.6</b>	<b>74.8</b>	<b>76.9</b>	<b>34.30</b>	

P1 denotes the percentage of people not expected to survive to age 40

P2 denotes the percentage of illiterate persons

P3 denotes the deprivation in a decent standard of living given by the average value of P31,P32,P33,P34 and P35

P31 denotes the percentage of people without safe drinking water

P32 denotes the percentage of people without access to health care

P33 denotes the percentage of moderately and severely underweight children at birth

P34 denotes the percentage of people without access to sanitary facilities

P35 denotes the percentage of people not having pucca dwelling houses

Table I-12: **District-wise Human Poverty Index (HPI), Assam,1999** (Variant A and Variant B)

District	HPI (A) value (in %)	HPI (A) Rank	HPI (B) value (in %)	HPI (B) Rank
Dhubri	31.98	21	41.92	20
Kokrajhar	31.51	20	42.73	22
Bongaigaon	24.03	13	35.37	14
Goalpara	26.30	15	39.55	16
Barpeta	22.83	11	35.22	13
Nalbari	15.63	4	33.04	7
Kamrup	17.44	5	24.72	3
Darrang	23.30	12	34.43	11
Sonitpur	24.68	14	34.60	12
Lakhimpur	20.23	8	32.81	6
Dhemaji	19.60	7	37.03	15
Morigaon	20.28	9	34.06	9
Nagaon	19.16	6	34.06	9
Golaghat	14.52	3	30.84	4
Jorhat	21.94	10	31.33	5
Sibsagar	10.31	1	24.28	1
Dibrugarh	13.98	2	24.30	2
Tinsukia	29.14	17	33.71	8
Karbi-Anglong	33.52	23	44.44	23
N.C.Hills	31.44	19	42.66	21
Karimganj	33.38	22	40.22	18
Hailakandi	27.00	16	41.02	19
Cachar	29.22	18	39.71	17
<b>ASSAM</b>	<b>23.24</b>		<b>34.30</b>	



## Chapter 3: Education and Literacy

Table E-1: Expenditure on Elementary Education

Year	Total Expenditure on Elementary Education (Rs. in millions)	(B) as % age of total expenditure on Education	(B) as % age of total revenue expenditure in the state	(B) as % age of Gross State Domestic Product (at current prices)
1985-86	1259	57.8	12.9	2.46
1986-87	1525	57.8	12.36	2.78
1987-88	1704	57.9	13.73	2.84
1988-89	2002	59.7	14.58	3.05
1989-90	2656	67.4	17.30	3.43
1990-91	2623	58.8	14.76	2.95
1991-92	3298	58.9	12.28	3.16
1992-93	3786	58.6	13.80	3.32
1993-94	4750	57.8	14.32	3.62
1994-95	5146	59.1	17.38	3.53
1995-96	5746	67.6	13.78	3.69
1996-97	6213	60.1	17.40	3.55*
1997-98	6829	58.7	16.90	3.65**

\* This has been calculated on the basis of provisional estimates of GSDP.

\*\* This has been calculated on the basis of quick estimates of GSDP.

Source: Assam Budget in Brief, issued by The Directorate of Economics and Statistics, Government of Assam (different years); Studies in State Finance for Education – A Synthesis, Department of Education, MHRD, 1997; Report on Currency and Finance: Volume II, Reserve Bank of India (different years); State Finance for Education: Assam, OKD, Institute for DPEP Assam, 1997. (Percentages calculated on the basis of statistics cited from these sources)

Table E-2: **Number of Educational Institutions and Enrolment in Assam, 1997-98**

Type of Institution	Number	Enrolment
1. High School	3847	947534
2. Higher Secondary School	599	489967
3. College for general education :		
(i) Arts, Science & Commerce College	248	309017
(ii) Junior College	70	24515
4. College for professional education :		
(i) Agriculture	2	N.A.
(ii) Engineering	3	3359
(iii) Law	9	N.A.
(iv) Medical (including Homeo, Ayurvedic, Dental, Pharmacy)	6	2392
(v) Veterinary	2	736
5. Polytechnic institution	9	4443
6. University	5	6750
7. Vocational Schools:		
(i) Commerce	36	6425
(ii) Music and Dancing	43	5492
(iii) Nursing and Midwifery	4	176
(iv) Arts and Crafts	26	678
(v) Junior technical	6	495
(vi) Handicapped	5	555
8. Adult education	5287	111758
9. Oriental studies	126	8390

Table E-3: High School Leaving Certificate Examination, 1997,  
District-wise Performance

District	Appeared	I Div.	II Div.	III Div.	Total	Pass %age
Dhubri	9584	151	637	1868	2656	27.71
Kokrajhar	4741	83	353	957	1393	29.38
Bongaigaon	5729	131	381	996	1508	26.32
Goalpara	4697	75	313	732	1120	23.84
Barpeta	13116	277	1061	2883	4221	32.18
Nalbari	11866	245	975	2050	3270	27.55
Kamrup	23541	1797	3061	4379	9237	39.23
Darrang	9505	179	720	1589	2488	26.17
Sonitpur	9635	346	798	1640	2784	28.89
Lakhimpur	14248	166	637	2445	3248	22.79
Dhemaji	12557	73	879	4005	4957	39.47
Morigaon	6210	61	275	809	1145	18.43
Nagaon	12926	351	927	2306	3584	27.72
Golaghat	9589	154	532	1631	2317	24.16
Jorhat	12355	326	890	2139	3355	27.15
Sibsagar	13604	269	954	2799	4022	29.56
Dibrugarh	8927	417	851	1536	2804	31.41
Tinsukia	5095	156	439	771	1366	26.81
Karbi Anglong	4749	46	223	618	887	18.67
N.C.Hills	2146	34	123	614	771	35.92
Karimganj	5251	110	300	892	1302	24.79
Hailakandi	3863	43	135	451	629	16.28
Cachar	9725	221	591	1963	2775	28.53
<b>ASSAM</b>	<b>213659</b>	<b>5711</b>	<b>16055</b>	<b>40073</b>	<b>61839</b>	<b>28.94</b>

Source: Board of Secondary Education, Assam

**Table E-4: High School Leaving Certificate Examination, 1998  
District-wise Performance**

District	Appeared	I Div.	II Div.	III Div.	Total	Pass %age
Dhubri	6923	170	576	1401	2147	31.01
Kokrajhar	3974	66	259	713	1038	26.11
Bongaigaon	4613	104	391	840	1335	28.93
Goalpara	3541	59	298	643	1000	26.24
Barpeta	10522	246	1049	2400	3695	35.11
Nalbari	9126	252	904	1915	3071	33.65
Kamrup	20530	1572	2996	3964	8532	41.55
Darrang	8029	168	774	1275	2218	27.62
Sonitpur	7313	306	730	1349	2385	32.61
Lakhimpur	9853	153	615	1669	2437	24.73
Dhemaji	9542	72	503	2376	2951	30.92
Morigaon	4198	70	280	591	941	22.41
Nagaon	10236	348	934	1692	2974	29.05
Golaghat	6929	184	534	1082	1800	25.97
Jorhat	8897	289	823	1462	2574	28.93
Sibsagar	9103	250	1003	1784	3037	33.36
Dibrugarh	8263	441	848	1396	2685	32.49
Tinsukia	4729	207	546	867	1620	34.25
Karbi Anglong	3155	31	182	357	570	18.06
N.C.Hills	1886	25	107	330	462	24.49
Karimganj	4053	91	287	890	1268	31.28
Hailakandi	2509	38	249	529	816	32.52
Cachar	8215	256	630	1454	2340	28.48
<b>ASSAM</b>	<b>166139</b>	<b>5399</b>	<b>15518</b>	<b>30979</b>	<b>51896</b>	<b>31.23</b>

Source: Board of Secondary Education, Assam

Table E-5: High School Leaving Certificate Examination, 1999  
District-wise performance

District	Appeared	I Div.	II Div.	III Div.	Total	Pass (%)
Dhubri	7111	162	780	1747	2689	37.81
Kokrajhar	4860	129	364	839	1332	27.40
Bongaigaon	4964	144	377	818	1339	26.97
Goalpara	3430	72	363	564	999	29.12
Barpeta	9742	329	1201	2200	3730	38.28
Nalbari	9834	288	1064	1820	3172	32.25
Kamrup	20764	1752	3219	3998	8969	43.19
Darrang	8380	188	816	1199	2203	26.28
Sonitpur	7719	333	875	1372	2580	33.42
Lakhimpur	9826	210	716	1587	2513	25.57
Dhemaji	8310	112	807	2479	3398	40.89
Morigaon	4038	79	323	626	1028	25.45
Nagaon	10423	340	972	1533	2845	27.29
Golaghat	6702	162	518	1054	1734	25.87
Jorhat	9207	390	958	1445	2793	30.33
Sibsagar	9109	262	981	1598	2841	31.18
Dibrugarh	7818	449	845	1337	2631	33.65
Tinsukia	5094	248	588	929	1765	34.64
Karbi Anglong	3800	44	232	327	603	15.86
N.C.Hills	1836	21	117	223	361	19.66
Karimganj	4059	101	339	668	1108	27.29
Hailakandi	2850	53	227	653	933	32.73
Cachar	8606	263	730	1591	2584	30.02
<b>ASSAM</b>	<b>168482</b>	<b>6131</b>	<b>17412</b>	<b>30607</b>	<b>54150</b>	<b>31.13</b>

Source: Board of Secondary Education, Assam

**Table E-6: High School Leaving Certificate Examination, 2000  
District-wise Performance**

District	Appeared	I Div.	II Div.	III Div.	Total	Pass (%)
Dhubri	8192	194	828	2037	3059	37.34
Kokrajhar	5550	119	596	1484	2199	39.62
Bongaigaon	5696	168	587	1103	1858	32.61
Goalpara	4212	118	383	687	1188	28.20
Barpeta	11059	399	1693	3277	5369	48.54
Nalbari	10785	360	1390	2533	4283	39.71
Kamrup	21856	2168	3692	4638	10498	48.03
Darrang	8808	269	1109	1748	3126	35.49
Sonitpur	8391	393	949	1667	3009	35.85
Lakhimpur	10889	290	1243	2674	4207	38.63
Dhemaji	9897	182	1504	3378	5064	51.16
Morigaon	4257	85	341	654	1080	25.36
Nagaon	11895	517	1201	1891	3609	30.34
Golaghat	7131	229	786	1333	2348	32.92
Jorhat	9878	461	1322	2055	3838	38.85
Sibsagar	10529	370	1410	2353	4133	39.25
Dibrugarh	8470	510	1144	1762	3416	40.33
Tinsukia	5419	239	609	918	1766	32.58
Karbi Anglong	4454	67	277	472	816	18.32
N.C.Hills	1722	30	108	194	332	19.27
Karimganj	4289	129	357	880	1366	31.84
Hailakandi	2803	99	525	888	1512	53.94
Cachar	8940	416	1165	1980	3561	39.83
<b>ASSAM</b>	<b>185122</b>	<b>7812</b>	<b>23219</b>	<b>40606</b>	<b>71637</b>	<b>38.69</b>

Source: Board of Secondary Education, Assam

**Table E-7: Performance of Students in the HSLC Examination, 1997-2000**  
**District-wise Performance**

District	Appeared	I Div	II Div	III Div.	Passed	Failed	Total	Pass %	Fail %
Dhubri	37,333	517	3,451	10,101	14,069	23,264	2,656	37.69	62.31
Kokrajhar	19,125	397	1,572	3,993	5,962	13,163	1,393	31.17	68.83
Bongaigaon	21,002	547	1,736	3,757	6,040	14,962	1,508	28.76	71.24
Goalpara	15,880	324	1,357	2,626	4,307	11,573	1,120	27.12	72.88
Barpeta	44,439	1,251	5,004	10,760	17,015	27,424	4,221	38.29	61.71
Nalbari	41,611	1,145	4,333	8,318	13,796	27,815	3,270	33.15	66.85
Kamrup	86,691	7,289	12,968	16,979	37,236	49,455	9,237	42.95	57.05
Darrang	31,731	705	2,904	6,774	10,383	21,348	2,488	32.72	67.28
Sonitpur	33,058	1,378	3,352	6,028	10,758	22,300	2,784	32.54	67.46
Lakhimpur	44,816	819	3,211	8,375	12,405	32,411	3,248	27.68	72.32
Dhemaji	37,774	698	3,578	8,227	12,503	25,271	4,957	33.1	66.9
Morigaon	18,703	295	1,219	2,680	4,194	14,509	1,145	22.42	77.58
Nagaon	45,480	1,556	4,034	7,422	13,012	32,468	3,584	28.61	71.39
Golaghat	30,351	729	2,370	5,100	8,199	22,152	2,317	27.01	72.99
Jorhat	40,337	1,466	3,993	7,101	12,560	27,777	3,355	31.14	68.86
Sibsagar	42,345	1,151	4,348	8,534	14,033	28,312	4,022	33.14	66.86
Dibrugarh	33,478	1,817	3,688	6,031	11,536	21,942	2,804	34.46	65.54
Tinsukia	20,337	850	2,182	3,485	6,517	13,820	1,366	32.05	67.95
Karbi Anglong	16,158	188	914	1,774	2,876	13,282	887	17.8	82.2
NC Hills	7,590	110	455	1,361	1,926	5,664	771	25.38	74.62
Karimganj	17,652	431	1,283	3,330	5,044	12,608	1,302	28.57	71.43
Hailakandi	12,025	233	1,136	2,521	3,890	8,135	629	32.35	67.65
Cachar	35,486	1,156	3,116	6,988	11,260	24,226	2,775	31.73	68.27
<b>ALL STATE</b>	<b>733,402</b>	<b>25,052</b>	<b>72,204</b>	<b>142,265</b>	<b>239,521</b>	<b>493,881</b>	<b>61,839</b>	<b>32.66</b>	<b>67.34</b>



## Chapter 4: Towards a Healthy Society

Table H-1: **IMR-Assam and India**

(per 1000 live births)

	Assam rural	India rural	Assam urban	India urban	Assam combined	India combined
1991	83	87	42	53	81	80
1992	77	85	50	53	76	79
1993	84	82	60	45	81	74
1994	78	80	76	52	78	74
1995	77	80	59	48	77	74
1996	79	77	37	46	74	72
1997	79	77	37	45	76	71
1998	80	77	36	45	76	72
1999	79	75	36	44	76	70

Source: Directorate of Economics and Statistics, Assam

Table H-2: **Crude Birth Rates, Assam and India**

Year	ASSAM			INDIA		
	Total	Rural	Urban	Total	Rural	Urban
1991	30.9	31.7	21.3	29.5	30.9	24.3
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	30.8	31.9	22.2	28.7	30.5	23.1
1995	29.3	30.2	21.8	28.3	30.0	22.7
1996	27.6	28.9	20.7	27.5	29.3	21.6
1997	28.2	29.0	20.7	27.2	28.9	21.5
1998	27.9	28.7	20.2	26.5	28.0	21.0
1999	27.0	28.0	18.9	26.1	27.6	20.8

Source: SRS, RGI, India. (Bulletin April 1999)

Table H-3: **Total Fertility Rate**

Age	NFHS-1 1990-92 Urban	NFHS-2 1996-98 Urban	NFHS-1 1990-92 Rural	NFHS-2 1996-98 Rural	NFHS-2 1990-92 Total	NFHS-2 1996-98 Total
15-49	2.53	1.50	3.68	2.39	3.53	2.31
15-44	2.53	1.50	3.68	2.39	3.53	2.31

Source : NFHS-2

Table H-4: Crude Death Rate - Assam and India

(per 1000 live births)

Year	Assam			India		
	Total	Rural	Urban	Total	Rural	Urban
1991	11.5	11.8	6.9	9.8	10.6	7.1
1992	10.4	10.7	7.4	10.1	10.9	7.0
1993	10.2	10.7	6.7	9.3	10.6	5.8
1994	9.2	9.4	7.2	9.3	10.1	6.7
1995	9.6	10.0	6.7	9.0	9.8	6.6
1996	9.6	10.2	5.8	9.0	9.7	6.5
1997	9.6	10.3	5.9	8.9	9.6	6.5
1998	10.0	10.5	6.0	9.0	9.7	6.6
1999	9.7	10.1	6.2	8.7	9.4	6.3

Source: SRS, RGI, Bulletin

Table H-5: Ante-natal Care (percent)

Background Characteristics	Residence 2+doses of TT	Residence iron/folic Acid	Residence IFA For 3+months	Residence ANC - home visit only	ANC by doctor (outside home)	ANC by other professionals (outside home)	ANC by other person (outside home)
Age at marriage							
15-19	55.5	54.8	46.0		55.5	8.1	0.7
20-34	52.7	56.4	46.3	1.9	52.1	6.7	0.1
35-49	33.5	40.2	32.7	1.3	37.5	5.6	
Residence							
Urban	87.7	84.9	82.8		86.2	2.2	
Rural	49.5	53.1	43.0	1.6	49.4	7.1	0.2
Birth order							
1	68.2	67.9	58.3	0.7	67.5	6.6	0.7
2-3	53.1	54.8	45.5	1.5	50.5	7.5	
4-5	34.3	42.3	33.0	2.4	37.8	6.9	
6+	25.5	37.9	26.1	2.9	30.7	4.9	
Total	51.7	55.0	45.3	1.5	51.5	6.6	0.2

Source: NFHS-2

Table H-6: **Distribution of Villages According to Distance from Nearest Health Facility in Rural Assam (NFHS-1, 1992-93)**

Distance from village	Primary health centre	Sub-centre	PHC/ Sub-centre	Any Hospital	Dispensary/ Clinic	Any Health facility
Within village	10.8	24.4	24.7	4.7	18.0	31.3
<5 Km.	42.7	42.7	51.7	33.6	37.1	53.9
5-9 Km.	25.5	12.1	8.9	31.6	26.5	6.9
10+ Km.	20.1	14.3	13.8	30.2	18.4	7.5
Don't Know/ missing	0.9	6.6	0.9			
Median distance (km)	4.4	2.8	2.5	5.8	4.2	2.2

Source : NFHS-1

Table H-7: **Hospital Activity Indicators (Average) - 1997**

Indicators	CHC	Sub-district	District	Public sector	Private
Bed occupancy (%)	51.20	106.60	92.50	57.74	69.24
Bed turn over rate (%)	42.20	32.40	29.50		
Average length of stay (days)	1.90	3.70	5.88	5.38	5.40
Left against medical advice (%)	14.89	17.05	4.38	0.00	0.00
Gross death rate	0.46	1.10	2.11	1.38	1.68
Major surgeries/ 100 patients	0.00	0.00	7.80	4.20	18.00
Deliveries/ 100 patients	7.40	80.00	16.20	10.00	35.80

Source : Directorate of Health Services, Assam

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# Abbreviations and Terms Explained

AIDS	Acquired Immune Deficiency Syndrome
AIES	All India Educational Survey
ALR	Adult Literacy Rate; the percentage of literate persons among the population aged 15 and above
ANM	Auxiliary Nurse cum Midwife
ARI	Acute Respiratory Infection
ARWSP	Accelerated Rural Water Supply Programme
ASEB	Assam State Electricity Board
ASP	Alternative Schooling Programme
BBCI	Bhubaneswar Baruah Cancer Institute
BRC	Block Resource Centre
BTC	Basic Training Centre
Casual labour	Non regular wage workers are referred to as casual labour
CBR	Crude Birth Rate
CDDS	Current Day to Day Status, day-to-day status within the week preceding the date of survey adopting priority criterion
CDR	Crude Death Rate
CHC	Community Health Centre (30 bedded rural hospital)
Children	Persons below age 15 years
CMW	Currently Married Women; married women whose partners are still alive
CPR	Common Property Resources
CRC	Cluster Resource Centre
CRSP	Centrally Sponsored Rural Sanitation Programme
CWS	Current Working Status, based on a reference period of last seven days preceding the date of survey.
DDP	District Domestic Product
Dependency Ratio	Refers to the ratio of number of persons in the age groups 0-14 years and 60 years and above to the number of persons in the age group 15-59 years.
DIET	District Institute for Education Training
DLRG	District Level Resource Group
DPEP	District Primary Education Programme
DRDA	District Rural Development Agency
DTBC	District Tuberculosis Centre
DWRCA	Development of Women and Children in Rural Areas

EAS	Employment Assurance Scheme
ECE	Early Childhood Education
EFC	Eleventh Finance Commission
EGS	Education Guarantee Scheme
EMIS	Educational Management Information Systems
EPI	Expanded Programme on Immunization
Educated Unemployed	Those who have obtained secondary level education and above and are unemployed are called educated unemployed
FIMR	Female Infant Mortality Rate
FLR	Female Literacy Rate
FWPR	Female Work Participation Rate
GCF	Gross Capital Formation
GDI	Gender Related Development Index
GDP	Gross Domestic Product
GEM	Gender Empowerment Measure
GER	Gross Enrolment Ratio is defined as the percentage of enrolment in classes I to V and VI to VIII and I to VIII to the estimated child population in the age group 6 to < 11 years and/or 11 to <14 years and/or 6 to <14 years respectively . Enrollment in these stages include overage and underage children. Hence the total percentage may be more than 100 percent in some cases.
GFCF	Gross Fixed Capital Formation
GOI	Government Of India
HDI	Human Development Index
HDR	Human Development Report
HPI	Human Poverty Index
HRD	Human Resource Development
HSLC	High School Leaving Certificate
HSSLC	Higher Secondary School Leaving Certificate
ICDS	Integrated Child Development Services
IEDC	Integrated Education for Disabled Children
IMR	Infant Mortality Rate
IREP	Integrated Rural Energy Programme
IRS	Iron Removal Plants
IT	Information Technology
JRY	Jawahar Rozgar Yojana
Kutch house	Refers to a house whose wall and roofs are made of kutch materials
LEB	Life Expectation at Birth
LR	Literacy Rate
Main workers	Persons engaged in economic activity for 183 days or more in the reference year
Marginal workers	Persons engaged in economic activity for less than 183 days in the reference year
MCH	Maternal and Child Health
MHFW	Ministry of Health and Family Welfare



MMR	Maternal Mortality Rate
MNP	Minimum Needs Programme
MPCE	Monthly Per-capita Consumer Expenditure
NACO	National AIDS Control Organization
NAMP	National Anti Malaria Programme
NBCP	National Blindness Control Programme
NCAER	National Council of Applied Economic Research
NER	Net Enrolment Ratio is defined as the enrolment of the official age group for a given level of education expressed as a percentage of the population from the same age group.
NFE	Non-Formal Education
NFHS	National Family Health Survey
NREP	National Rural Employment Programme
NSDP	Net State Domestic Product
NSS	National Sample Survey
OB	Operation Blackboard
OBC	Other Backward Classes
OPD	Out Patient Department
ORS	Oral Rehydration Salts
PB	Pansi-Bacillary
PDS	Public Distribution System
PHED	Public Health Engineering Department
PPI	Pulse Polio Immunization
PPP\$	Purchasing Power Parity (\$)dollar
Primary sector	Agriculture and allied sector
PSU	Public Sector Undertaking
PTR	Pupil Teacher Ratio
Pucca house	If both the wall and roof are made of pucca materials like burnt bricks, GI sheets, stone, cement, concrete etc.
RCH	Reproductive and Child Health
RNTCP	Revised National TB Control Programme
RSM	Rural Sanitary Mart
SC	Scheduled Castes
SCERT	State Council Educational Research and Training
SCOVA	Standing Committee on Voluntary Action
Safe Drinking Water	Drinking water supply from taps, hand pumps, tubewells
SEBA	Secondary Education Board of Assam
Secondary Sector	Manufactured goods, construction, electricity, gas and water supply
Self employed	Persons engaged in own farm or non-farm activities are called self employed
Semi pucca house	A house with walls or roof of pucca materials
Sex Ratio	Number of females per 1000 males

SIE	State Institute of Education
SISE	State Institute Science Education
SMAM	Singulate Mean Age at Marriage
SNA	System of National Accounting
SOPT	Special Orientation of Primary Teacher
SRS	Sample Registration System
ST	Scheduled Tribes
STD	Sexually Transmitted Diseases
Subsidiary worker	A person engaged in economic activity for a nominal period but not categorized as usual principal status worker is called subsidiary worker
TB	Tuberculosis
TE	Teacher Education
Tertiary Sector	Service sector, trade, transport, real estate, banking, insurance, communications etc.
TFC	Tenth Finance Commission
TFR	Total Fertility Rate
Total workers	Main worker plus marginal workers
TRYSEM	Training of Rural Youth for Self Employment
UEE	Universal Elementary Education
UGC	University Grants Commission
UNDP	United Nations Development Programme
Unemployed	Persons seeking and/ or available for work under the present system of work and remuneration
Unemployment rate	The percentage of unemployed people to the labour force
UPE	Universal Primary Education
UPS	Usual Principal Status refers to persons categorized as workers on the basis of the usual status of activity based on relatively longer period of reference like a period of 365 days preceding the date of survey
UIP	Universal Immunization Programme
WHO	World Health Organization
WORK FORCE	Total Number of Workers
WPR	Workforce Participation Rate is the number of persons employed per 1000 persons



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