BENGALURU URBAN DISTRICT

Human Development Report, 2014








Bengaluru Urban Zilla Panchayat
and
Planning, Programme Monitoring and Statistics Department
Government of Karnataka

BENGALURU URBAN DISTRICT

Human Development Report, 2014

Bengaluru Urban Zilla Panchayat
and
Planning, Programme Monitoring and Statistics Department,
Government of Karnataka

Bengaluru Urban District
Human Development Report, 2014

Copyright : Planning, Programme Monitoring and Statistics Department, Government of Karnataka

Published by : Bengaluru Urban District Zilla Panchayat, Government of Karnataka

First Published : 2014

All rights reserved. No part of this publication may be reproduced, stored or transmitted in any form by any means without the prior permission by Zilla Panchayat and Planning, Programme Monitoring and Statistics Department, Government of Karnataka

Printed by : (Concerned printing press name)

While every care has been taken to reproduce the accurate data, oversights / errors may occur. If found convey it to the CEO, Zilla Panchayat and Planning, Programme Monitoring and Statistics Department, Government of Karnataka



SIDDARAMAIAH
CHIEF MINISTER

MESSAGE

VIDHANA SOUDHA
BANGALORE - 560 001

CM/PS/234/2014

Date : 27-10-2014

I am delighted to learn that the Department of Planning, Programme Monitoring and Statistics is bringing out District Human Development Reports for all the 30 districts of the State, simultaneously.

Karnataka is consistently striving to improve human development parameters in education, nutrition and health through many initiatives and well-conceived programmes. However, it is still a matter of concern that certain pockets of the State have not shown as much improvement as desired in the human development parameters. Human resource is the real wealth of any State. Sustainable growth and advancement is not feasible without human development. It is expected that these reports will throw light on the unique development challenges within each district, and would provide necessary pointers for planners and policy makers to address these challenges.

The District Human Development reports are expected to become guiding documents for planning and implementation of Programmes within the districts. I urge the Members of Parliament, Legislators, Zilla Panchayat, Taluk Panchayat and Gram Panchayat Members, vis-a-vis representatives of Urban Local Bodies to make conscious attempt to understand the analysis that has been provided in the district human development reports and strive hard to ensure that the identified gaps are bridged through effective planning and implementation.

A number of people from many walks of life including administrators, academicians and people representatives have contributed in making of these reports. I commend each and every one associated with the preparation of the District Human Development Reports. I acknowledge the efforts put in by district committees headed by Chief Executive Officers and Officers of the Planning Department in completing this challenging task.

It gives me great pride to share with you that Karnataka is the first state in the country to prepare district human development reports for all the districts. I am hopeful that this initiative will spur us to double our efforts to make Karnataka, a more equitable progressive State.

Siddaramaiah

(SIDDARAMAIAH)



S. R. PATIL
Minister for Planning &
Statistics, IT & BT,
Science & Technology
And
Bagalkot District Incharge Minister

Room No. 444, 445
4th Floor, Vikasa Soudha
Bangalore - 560 001
Res No. 080-22343804
22343807

MESSAGE

I am happy to learn that the District Human Development Reports (DHDRs) for all the 30 districts in the State are being placed in public domain shortly, A painstaking and massive effort has gone into the perparation of these reports. I heartly congratulate the Zilla Panchayats and the Planning Department for this commendable work.

The reports, I am sure, would help policy makers, administrators, researchers, social organizations and the public at large to understand the critical concerns of human develpment in the Districts and Taluks of our State and also to bridge such deprivatioins by initiating suitable policy and programme interventions.

(S R Patil)

RAMALINGA REDDY
Minister for Transport and
District in-charge Minister,
Bangalore

Room No. 141, 142
1st Floor, Vikasa Soudha
Ph: (O) : 080-22371240
22034010
Res. : 22237240

Dated : .....

07/11/2014

MESSAGE

Government of Karnataka is known across the country for its numerous pioneering initiatives which includes preparation of the District Human Develpment Report, In this context, I am very happy to note that the Government of Karnataka has already brought out two state levels Human Develpment Reports (HDR) in 1999 and 2005. The Bangalore District Human Development Report is a part of the initiative spearheaded by the Planning Department. Government of Karnataka to bring out District Human Development reports for all the thirty districts of Karnataka. It is really a milestone bringing out HDR at the district level to address the inter-taluk disparities in health, education and income and to draw attention to remove inequalities and discrimination.

It is now well recognized that the Human Development Index (HDI) and other realted indices are better indicators to understand the well being of the population. Bangalore City, the nerve centre of Karnataka, is a part of the district; with increasing urbanization the population of Bangalore City is also rising rapidly. Thus a report which outlines the various dimensions of human development in the district is the need of the hour. This report focuses on important issues for the population in the district especially in the areas of education, health, income, and gender, which I am sure, is of interest to the policy makers as well as the common man. The computed indices as well as the various chapters in the report will help planners and policy makers at all levels in the formulation and executioin of local-level policies and programmes for development. This report is particularly useful to the members of Gram Panchayaths, Taluk Panchayath and Zilla Panchayath, as they get enlightened with the knowledge of the concept and dimensions of Human Development which in turn would enable them collectively to formulate more meaningful and effective programmes for all round human develpment in the district.

I congratulate the ZillaPanchayat and the Lead Agency, National Institute of Advanced Studies, Bangalore, and the officers and others involved in the preparation of the report and hope that it serves its intended pupose in the development of Bangalore Urban District

(Ramalinga Reddy)

K.C. Ramachandra MA. B.Lib.
President
Bangalore Urban Zilla Panchayath
Bangalore Urban District

Off : S. Kariyappa Rorad
Banashankri 2nd Stage
Kanakapur Road, Bangalore-60
Mob : 9945678899 / 9342456789
Off : 080-26716163

Ref : BZP.PREC(PA)16/2014-15

Date : 30.10.2014

Foreword

The exercise of Human Development Report which was started at country level has now been extended to the state and district level. The Bangalore District Human Development Report is a part of the Government of karnataka efforts to bring out district human development reports for all the 30 Districts of Karnataka. Bangalore urban zilla panchyath has prepared the HDR of the district with greate interest and enthusiasm. Various developmental departments of the district experts from various fields have toiled hard to generate the report under the leadership of Sri, Bettaswamy CEO of Bangalore urban zilla panchyath.

The Human Development Report for Bangalore Urban District tries to capture the various aspects of human development including education, health, income, poverty, employment, gender issues and governance for this highly urbanized district.

I thank the elected members of the Zilla Panchayath, Taluk Panchayath and Grama Panchayath for their support during the district and the taluk level workshops; their constructive comments on the draft report have also benefitted the final report. I also want to congratulate district and taluk level officials, the Lead Agency, National Institute of Advanced Studies, Bangalore and all others involved in the preparation and finalization of Bangalore Urban District Human Development Report.

I hope that this report will help to the planners,policy makers.development administrators, rural and urban local bodies and institutions both governmental and non governmental in the formulation of more meaningful and effictive programmes of all round human development in the district.

(K.C.Ramachandra)
President
Zilla panchyath
Bangalore Urban District.

BETTASWAMY
Chief Executive Officer

BENGALURU ZILLA PANCHAYATH

S. Kariyappa Road
Banashankari
Bangalore - 560 070

Acknowledgements

Human Development is a much better parameter to reflect the well-being of the population than economic growth. Education, Health, and Standard of living are the three important factors contributing to human development.

The Bengaluru District Human Development Report is a part of the Government of Karnataka efforts to bring out district human development reports for all the thirty districts of Karnataka. Planning Department, Government of Karnataka organized a four day basic training programme for capacity building for Chief Executive Officers and other important officers of Zilla Panchayats, district Officers and representatives of Urban Local Bodies (ULBs) as well as for representatives of the Lead agencies. This trainging programme helped sensititze the participants on the concepts of Human Develpment, collection of data for various indicators and the rationale for preparation of the report. Further, the three day technical training programme organised for the representatives of Lead agencies, Chief Planning Officers of Zilla Panchayats and Distric Statistical Officers on collection and validation of data, list of indicators to be used, menthodology and computation of various indices and their analysis and chapter paln for DHDR, was very useful to everyone associated with the report. The quality monitoring and expert group constituted by the Planning department was ever helpful with their suggestions and advice.

President, Vice President and members of Zilla Panchayath shared their experience about the development process in the district and also provided valuable suggestions to improve the content of the report, I thank all of them for their help and active participation.

First of all I thank V Manjula, Principal Secretary, Planning, Programme Monitoring and Statistics Department, Governament of Karnataka for her valuable guidance, encouragement, and support without which we would not have been able to produce such a detailed report. I would also like to thank Shri. Sanjiv Kumar, I.A.S., former Principal Secretary, Planning, Programme Monitoring and Statistics Department, and Smt. Anita Kaul, I.A.S., former Additional Chief Secretary, Planning, Programme Monitoring and Statistics Department under whose leadership these reports were initiated. I also want to acknowledge the support and guidance of Sri Rajiv Ranjan, I.F.S., Secretary, Planning, Programme Monitoring and Statistics Department. I am also thankful to Dr. H. Shasidhar, State Consultant and Coordinator, Human Develpment Division, Planning Department, for his valuable guidance and constant monitoring, which hleped us to be on out toes and complete the report within a limited time frame. The DHDR is also supported by UNDP-PCI, under their project HDBI (Human Development : towards bridging inequalities), hence we would also like to thank the UNDP for their support.

My thanks are due to Presidents, Vice Presidents and Members of the Zilla Panchayath and Taluk Panchayaths, Executive Officers of Taluk Panchayats and other officials for their interactions and for providing useful data for the preparatoin of this report.

I am thankful to Prof. Narayan Sastry, Member-Qualtiy Monitoring Group, Bengaluru Urban District and Prof. R.N. Achyutha, from the Institute of Development studies, for having guided and enhanced the quality of this report. I am also thankful to the comments and suggestions given by Dr. Ganesh Prasad, Peer Reviewer, which has made this report crisp and reader friendly.

Shri C. Kempaiah, Chief Planning Officer. Bengaluru Urban Zilla Panchayat, deserves special mention for his untiring efforts in getting data from all the line departments of the district as well as getting data from the Bruhat Bengaluru Mahanagara Palike. He and his team also very effectively conveyed the concept of human development to the officals at the taluk and gram panchayat level. One must also mention the co-operation obtained from all the line department officers, particularly Dr. M. Rajani, District Health Officer, Smt. K. Padmavathy, DDPI South, Sri Manjunath, DDPI North, Sri Ramesh Halbavi, Deputy Director, Women and Child Welfare Department, Sri Chikkasubbaiah, District Statistical Officer, Sri Kodhanda Ramaiah, DYPC, Bengaluru South and Sri K.L. Rameshaiah DYPC Bengaluru North, with respect to providing the data as well as attending the district core committee meetings, it must be mentioned that all these factors helped in the speedy completion of the report.

I am also thankful to core Committee Members and the staff of Planning unit of Zilla Panchayath namely Sri D. Ramaiah, PAEO, Sri M. Raju, ASO, Sri M. Sundar, First Division Assistant and Smt. P.S. Sudha, Typist for thir kind co-operation and efforts in conducting District/Taluk level workshops and Core Committee meetings for the prepartion of this report.

Finally, I also appriciate the efforts of the Lead Agency, National Institute of Advanced Studies, Bengaluru and the report writer, Dr. Chidambaran G. Iyer, faculty at the National Insitute of Advanced Studies, Bengaluru.

Bettaswamy,
Chief Executive Officer
Bengaluru Urban Zilla Panchayath

Table of Contents

Message from Chief Minister iii

Message from Minister for Planning & Statistics v

Message from District in Charge Minister vii

Foreword ix

Acknowledgements xi

List of Tables xviii

List of Charts xxi

List of Pictures xxii

List of Maps xxiii

Abbreviations xxiv

Part - I Executive Summary xxv

Part - II

1 Introduction 1

1.1 Concept and Methodology 2

1.2 Factors contributing to Human Development 3

Education 3

Health 3

Standard of Living 3

1.3 Data Collection, Compilation and Validation 4

1.4 Measurement of Indices 4

1.5 Concluding Remarks 8

2 District Overview 9

2.1 Introduction 10

2.2 Background and Brief Regional History 10

2.3 Physiographic Divisions of the District 21

2.4 Land, Soil and Natural Resource Endowments 23

2.5 Demography 23

2.6 Literacy 26

2.7 Industry 29

2.8 Irrigation 33

2.9 Infrastructure 33

2.10 Regional Perspectives and Backwardness 34

2.11 An Overview 34

3 Computation of Indices 37

3.1 Introduction 38
3.2 Human Development Index 38
3.3 Gender Inequality Index 39
3.4 Child Development Index 41
3.5 Food Security Index 41
3.6 Urban Development Index 42
3.7 Composite Taluk / District Development Index 43
3.8 Concluding Remarks 44

4 Literacy and Education 45

4.1 Introduction 46
4.2 Literacy Profile of District 46
4.3 Enrolment 48
Gross enrolment ratio and Net enrolment ratio 53
4.4 Drop out, Out of School children and Mainstreaming of children 56
4.5 Transition rate 58
4.6 Teacher Pupil ratios 58
4.7 Infrastructure and Access 59
4.8 Eight Basic facilities – Infrastructure Index (SSA Method) 62
4.9 Pass Rate 62
4.10 Post-secondary Education 63
4.11 Per-capita Expenditure Analysis 65
4.12 Radar Analysis for Education 66
4.13 Overview and Educational gaps 66

5 Health and Nutrition 67

5.1 Introduction 68
5.2 Demography: Population by place of residence, sex and social groups, sex ratio 68
Male and Female population 69
Scheduled Caste and Scheduled Tribe population 71
5.3 Maternal Mortality and Infant Mortality Rate 72
5.4 Couple protection issues 75
5.5 Infrastructure, Health Personnel facility, and Institutional Delivery 76
5.6 Immunization of children and under-weight children 77
5.7 Communicable Diseases 78
5.8 Performance of various health schemes 79
5.9 Per capita expenditure analysis on health sector 80
5.10 Radar analysis for health 81

5.11 Small Area Study 83
5.11.1 Menace of silicosis due to the quarries in the mofussil areas of Bengaluru Urban district 83
5.11.2 Role of Asha workers in improving the health conditions of people 87
5.12 An Overview: Performance and inadequacies of health care system 90

6 Income, Poverty and Employment 93
6.1 Introduction 94
6.2 District and Taluk Income 94
6.3 Agriculture, Landless households, Cropping pattern, Irrigation and livestock 97
6.4 BPL households and MGNREGA 99
6.5 Employment and Unemployment 101
6.6 Main and Marginal workers 103
6.7 Work Participation Rate 104
6.8 Occupation patterns 106
6.9 Child Labour 111
6.10 Radar analysis for living standard 113
6.11 Small Area Study 115
Development Strategies for the 110 villages included in BBMP 115
6.12 Concluding Remarks 123

7 Standard of Living 125
7.1 Introduction 126
7.2 Housing Status 126
7.3 Site-less Households 126
7.4 Households with pucca houses and without proper houses 126
7.5 Households and asset status 129
7.6 Schemes for housing facilities 129
7.7 Drinking water 134
7.8 Electricity 135
7.9 Traditional and Modern fuel 136
7.10 Sanitation 138
7.11 Small Area Study 139
Development Strategies for Devarajeevanahalli 139
7.12 Concluding Remarks 141

8 Gender and Development 143
8.1 Introduction 144
8.2 Gender Differentials in the District 144
8.3 Patterns of Literacy and Enrolment 145

8.4 Work participation trends 148
8.5 Trends in political participation of women in Panchayat Raj setup 151
8.6 Community attitudes and social prejudices 152
8.7 Crime against Women 153
8.8 Role of women's groups and SHGs 155
8.9 Concluding Remarks 157

9 Status of Scheduled Castes and Scheduled Tribes 159
9.1 Introduction 160
9.2 Demographic profile 160
9.3 Literacy, dropout rate, and preferences of schools 163
9.4 Occupational pattern, livelihood opportunities and development programmes 163
Occupational pattern and livelihood opportunities 163
Development programmes 165
9.5 Housing, sanitation and drinking water facilities 166
Housing 166
Sanitation 168
Drinking water 171
9.6 Composite Dalit Development Index 171
9.7 Concluding Remarks 173

10 Governance and Human Development 175
10.1 Introduction 176
10.2 Local Governance Structure 176
10.3 Panchayat Raj Institutions: Structure and Process 176
10.4 Urban Local Bodies: Structure, Issues and Processes 178
10.5 Improving Service Delivery Mechanisms 178
10.6 Role of NGOs and other voluntary groups 179
10.7 Representation of Women and Marginalized Sections of Society in Governance 180
10.8 Concluding Remarks 183

11 Urban Issues in Human Development 185
11.1 Background 186
11.2 Services for the Engine of Growth 186
11.3 Water Supply and Sewerage 186
Water supply 186
Sewerage 187
11.4 Solid Waste Management 187
11.5 Roads & Transportation 189

11.6 Civic Amenities 190
Parks and playgrounds 190
Air quality 192
11.7 Concluding Remarks 192

12 Way Forward 193
12.1 Introduction 194
12.2 Discussion 194
Outline of HD and its Measurement as indicated by different indicators 194
Educational Component 194
Health Component 194
Livelihood and Quality of Living Components 194
Combined HD Analysis of the District 195
Regional Disparity of the present HD situation in the District 195
Way Ahead 196
12.3 Concluding Remarks 200

Annexure 1 - Data Availability and Quality 203
Annexure 2 - Process of DHDR Preparation 205
Annexure 3 - Indicator values of the various indices 206
Annexure 4 - Details on workshops and meetings 213

References 214

List of Tables

Table 1.1:	Indicators used for measuring the indices	5
Table 1.2	Indicators used for constructing CTDI	6
Table 2.1:	Ground water availability in Bengaluru Urban District as on 31/March/2012	21
Table 2.2:	Total population in Bengaluru Urban District in 2001 and 2011	21
Table 2.2a:	Migrants into Bengaluru City in per cent	24
Table 2.3:	Male, Female population and Sex ratio in Bengaluru Urban District	24
Table 2.4:	Sex ratio in the age group of 0-6 years in Bengaluru Urban District	25
Table 2.5:	Proportion of Scheduled caste and Scheduled tribe in total population	25
Table 2.6:	Sex ratios for SC and ST for the year 2001 and 2011	26
Table 2.7:	Literacy rate of Bengaluru Urban District in per cent	26
Table 2.8:	Male and Female literacy rates in 2011 and 2011	27
Table 2.9:	Number of factories and employees in Bengaluru Urban District	32
Table 2.10:	Percentage of net irrigated area through tanks and tube wells for 2011-12	34
Table 3.1:	Human Development and dimensional indices for taluks and BBMP in Bengaluru Urban district	38
Table 3.2:	Gender Inequality Index for taluks and BBMP in Bengaluru Urban district	41
Table 3.3:	Child Development index and its dimensional indices for taluks and BBMP in Bengaluru Urban district	41
Table 3.4:	Food security and dimensional indices for taluks in Bengaluru Urban district	42
Table 3.5:	Urban Development Index in Bengaluru Urban district	42
Table 3.6:	Composite Taluk Development Index and dimensional indices for Bengaluru Urban district	43
Table 4.1:	Literacy rate of Bengaluru Urban District in per cent	47
Table 4.2:	Male and Female literacy rates in 2001 and 2011	47
Table 4.3:	Literacy rates for 198 Wards in Bengaluru City in per cent	48
Table 4.4:	Schools in Bengaluru Urban District in 2012-13	49
Table 4.4a:	Schools in Bengaluru Urban District in 2011-12	49
Table 4.5:	Enrolment in schools for class 1 to 12 for the year 2012-13	51
Table 4.5a:	Enrolment in schools for class 1 to 12 for the year 2011-12	51
Table 4.6:	GER for primary and upper primary schools in the district, in per cent	54
Table 4.7:	NER for primary and upper primary schools in the district, in per cent	55
Table 4.8:	GER for secondary schools in the district, in per cent	55
Table 4.9:	Out of school and mainstreamed children for 2012-13	56
Table 4.9a:	Out of School and mainstreamed children for 2011-12	56
Table 4.10:	Transition rate in Bengaluru Urban district (in per cent)	57
Table 4.11:	Pupil and working teacher ratio in elementary schools of Bengaluru Urban district	58
Table 4.11a:	Student teacher ratio in Bengaluru Urban district in 2011-12	59
Table 4.12:	Infrastructure in schools for the year 2012-13	60
Table 4.12a:	Infrastructure in schools for the year 2011-12	60

Table 4.13	Eight basic facilities- Infrastructure Index for the year 2012-13	61
Table 4.13a:	Eight basic facilities- Infrastructure Index for the year 2011-12	61
Table 4.14:	SSLC pass rate for Bengaluru North division	63
Table 4.15:	Per capita expenditure on Education by BBMP	63
Table 5.1:	Maternal Mortality rate in Bengaluru Urban District	72
Table 5.2:	Severe anemia cases as a per cent of registered pregnant women	72
Table 5.3:	Per cent of registered pregnant women receiving full ANC	73
Table 5.4:	Infant mortality rate in Bengaluru Urban district	74
Table 5.5:	Couples using contraceptives in Bengaluru Urban district in per cent	74
Table 5.6:	Ratio of children fully immunized to the total number of live births, in per cent	78
Table 5.7:	Proportion of children born underweight to the total number of live births, in per cent	78
Table 5.8:	Reported cases of communicable diseases in Bengaluru Urban district	79
Table 5.9:	BBMP per capita health expenditure	80
Table 6.1:	Net Domestic District Income, Rs. Lakhs, at 2004-05 prices	95
Table 6.2:	Per Capita Income (Net District Domestic Product, NDDP at Current Prices) (in Rs.)	96
Table 6.3:	Per cent of households holding land across Bengaluru Urban district for 2010-11	98
Table 6.4:	BPL ration card holders in Bengaluru Urban district as on December 2012	101
Table 6.5:	Households availing MGNREGS in 2011-12	101
Table 6.6:	Main and marginal workers in 2001 and 2011	102
Table 6.7:	Work participation rate in Bengaluru Urban district in per cent	103
Table 6.8:	Work participation rate for SC and ST in per cent	103
Table 6.9:	Distribution of Occupational Pattern in Bengaluru Urban district (in per cent)	110
Table 6.10:	Salient features of villages included in BBMP in per cent	112
Table 7.1:	Houses in Bengaluru Urban District in numbers as per Census 2011	127
Table 7.2:	Taluk wise pucca houses in Bengaluru Urban district	127
Table 7.3:	Household assets across Bengaluru Urban district in per cent	130
Table 7.4:	Drinking water sources for households in Bengaluru Urban district in per cent	134
Table 7.5:	Electricity access to households across Bengaluru Urban district	135
Table 7.6:	Proportion of households accessing traditional fuels in per cent	136
Table 7.6a:	Proportion of households accessing modern fuels in per cent	137
Table 7.7:	Households with latrine within premises across Bengaluru Urban district	137
Table 7.8:	Households using public latrines and open spaces	138
Table 7.9:	Salient features of Devarajeevanahalli in per cent	139
Table 8.1:	Sex ratio in Bengaluru Urban district	144
Table 8.2:	Male and Female literacy trends in Bengaluru Urban district	146
Table 8.3:	Girls enrolment in per cent for classes from 1 to 12	148
Table 8.4:	Female work participation rate in per cent	149

Table 8.5:	Female main and marginal workers in 2001 and 2011 for Bengaluru Urban district	149
Table 8.6:	Representation of women in Panchayats and Urban local bodies in per cent	151
Table 8.7:	History of representation of women in Panchayats and Urban local bodies in per cent	152
Table 8.8:	Incidence of crime against women in Bengaluru City	154
Table 8.9:	Participation of women in self help groups across Bengaluru Urban district	156
Table 9.1:	Literacy rate of SC and ST in Bengaluru Urban district in per cent as per Census 2011	161
Table 9.2:	Enrolment of SC and ST across standards in all schools	162
Table 9.2a:	Enrolment of SC and ST in all schools	
Table 9.3:	School preferences of SC's and ST's in Bengaluru Urban district in per cent	162
Table 9.3a:	School preferences of SC's and ST's in Bengaluru Urban district in per cent for the year 2011-12	163
Table 9.4:	Main and marginal SC workers in per cent, as per Census 2011	163
Table 9.5:	Main and marginal ST workers in per cent, as per Census 2011	163
Table 9.6:	Proportion of SC and ST population living in rural and urban areas of the district in per cent	164
Table 9.7:	Distribution of Main workers across categories in per cent, as per Census 2011	165
Table 9.8:	Type of SC and ST accommodation in rural and urban areas in per cent, as per Census 2011	166
Table 9.9:	Proportion of houses of SC and ST's in terms of exclusive rooms in per cent, as per Census 2011	167
Table 9.10:	SC and ST household access to bathrooms, drains, and toilets in per cent, as per Census 2011	169
Table 9.11:	Drinking water facilities for SC and ST households in per cent, as per Census 2011	170
Table 9.12:	Composite Dalit Development Index	172
Table 10.1:	Representation of Women and SC&ST in the current term, in per cent	181
Table 11.1:	Waste generated across zones in February 2013 in Bengaluru City, MT	188
Table 12.1:	Human Development and dimensional indices for taluks and BBMP in Bengaluru Urban district	196

List of Charts

Chart 4.1:	GER for Elementary and Secondary schools in Bengaluru Urban district	64
Chart 4.2:	NER for Elementary schools in Bengaluru Urban district	65
Chart 4.3:	Student teacher ratio for Elementary and Secondary education	65
Chart 5.1:	Ward population in Bengaluru City as per Census 2011	68
Chart 5.2:	Sex ratio for ward population and children below the age of six as per Census 2011	70
Chart 5.3:	Proportion in per cent of SC and ST in the wards of Bengaluru City as per Census 2011	70
Chart 5.4:	Sex ratio among SC and ST in the wards of Bengaluru City as per Census 2011	71
Chart 5.5:	IMR for Bengaluru Urban district in 2011-12	81
Chart 5.6:	MMR for Bengaluru Urban district in 2011-12	82
Chart 5.7:	Per cent of children born under-weight in 2011-12	82
Chart 6.1:	Work participation rate in per cent across wards of Bengaluru City	104
Chart 6.2:	Proportion of Other workers, Main workers in Household industries, and Marginal workers across the wards of Bengaluru City in per cent	105
Chart 6.3:	Occupational profile in BBMP as per Census 2011	107
Chart 6.4:	Occupational profile in Bengaluru North as per Census 2011	107
Chart 6.5:	Occupational profile in Bengaluru South as per Census 2011	108
Chart 6.6:	Occupational profile in Bengaluru East as per Census 2011	108
Chart 6.7:	Occupational profile in Anekal as per Census 2011	109
Chart 8.1:	Female literacy in per cent across ward of Bengaluru City in 2011	147

List of Pictures

Picture 2.1:	A view of an Information Technology company in Bengaluru Urban district	29
Picture 2.2:	A view of a leading biotechnology company in Bengaluru Urban district	29
Picture 2.3:	A typical medium manufacturing unit in Bengaluru Urban district	30
Picture 2.4::	Garment unit in Bengaluru Urban district	30
Picture 2.5:	One of the numerous flyovers in Bengaluru Urban district	31
Picture 4.1:	A government school in Bengaluru Urban district	50
Picture 4.2:	A private school in Bengaluru Urban district	50
Picture 4.3:	A classroom in a government school in Bengaluru Urban district	59
Picture 4.4:	Students learning computer skills at a government school	62
Picture 5.1:	A leading private hospital in Bengaluru Urban district	77
Picture 5.2:	A typical quarry in Bengaluru Urban district	84
Picture 5.3:	Stone breaking facility next to a quarry	85
Picture 5.4:	Water with high concentration of salts in quarries	85
Picture 5.5:	Labourers carrying their children to work	87
Picture 6.1:	A farm close to an upcoming apartment complex in Bengaluru Urban district	100
Picture 6.2:	Non agricultural land in Bengaluru Urban district	100
Picture 6.3:	Shrine in Harlur village	109
Picture 6.4:	Narrow roads in Haralur village	110
Picture 6.5:	Concrete houses in Haralur village	111
Picture 6.6:	Houses in Haralur village	113
Picture 6.7:	View of one part of Haralur main road	114
Picture 6.8:	View of another part of Haralur main road	115
Picture 6.9:	View of high rises comes in the land adjoining Haralur village	116
Picture 6.10:	Traffic through Haralur main road	117
Picture 6.11:	Lane in Naganathapura village	118
Picture 6.12:	Garbage disposed at street corners	119
Picture 6.13:	View of the main road passing through Naganathapura	120
Picture 6.14:	Another narrow lane in Naganathapura village	121
Picture 6.15:	Water being supplied to nearby areas from Naganathapura village	122
Picture 6.16:	Water supplied in private tankers to houses in Naganathapura village	122
Picture 7.1:	Houses next to a prominent Information technology company in Bengaluru Urban district	128
Picture 7.2:	Houses in Anekal taluk	128
Picture 11.1:	Lalbagh in Bengaluru City	191

List of Maps

Map 2.1:	Growth of Bengaluru City	11
Map 2.2:	Administrative map of Bengaluru Urban district	22

Abbreviations

ANC	Ante Natal Care
ASHA	Accredited Social Health Activist
BATF	Bengaluru Agenda Task Force
BBMP	Bruhat Bengaluru Mahanagar Palike
BDA	Bengaluru Development Authority
BMTC	Bengaluru Metropolitan Transport Corporation
BMRDA	Bengaluru Metropolitan Region Development Authority
BWSSB	Bengaluru Water Supply & Sewerage Board
CBO	Community Based Organizations
CDI	Child Development index
CDDI	Composite Dalit Development Index
CEO	Chief Executive Officer
CMR	Child Mortality Rate
CSO	Civil Society Organizations
DCDI	District Composite Development Index
CTDI	Composite Taluk Development index
EO	Executive Officer
EWS	Economically Weaker Sections
FSI	Food Security index
GER	Gross Enrolment ratio
GP	Gram Panchayat
GII	Gender Inequality index
HDI	Human Development index
IMR	Infant Mortality Rate
KPSCB	Karnataka Pollution State Control Board
LIG	Low Income Groups
MMR	Maternal Mortality Rate
MLA	Member of Legislative Assembly
MP	Member of Parliament
NSA	Net Sown Area
NDDP	Net District Domestic Product
NER	Net Enrolment ratio
NIC	National Informatics Centre
NGO	Non Governmental Organization
PRI	Panchayat Raj Institutions
RAY	Rajiv Awas Yojana
SC	Scheduled Caste
SFCPoA	Slum Free City Plan of Action
SHG	Self Help Groups
ST	Scheduled Tribe
SSLC	Secondary School Leaving Certificate
TP	Taluk panchayat
UDI	Urban Development index
UNDP	United Nations Development Programme
ZP	Zilla Panchayat

Part - I Executive Summary









The Bengaluru Urban district human development report has been prepared using a methodology that has kept in view the basic three dimensions of human development, namely health, education and standard of living. Taluk level data on these three dimensions has been used to compute human development indices at the taluk level. This has been done for all the taluks in the state of Karnataka. The mathematical technique used for computing the indices using these indicators is the standard technique adopted by the United Nations Development Programme (UNDP). This district human development report computes indices such as: Human Development index (HDI), Gender Inequality index (GII), Child Development index (CDI), Food Security index (FSI), Urban Development index (UDI), Composite Taluk Development index (CTDI), and Composite Dalit Development Index (CDDI). The computed CDDI is for only one gram panchayat and one urban ward in the district. This index broadly hints at the development of dalits in that gram panchayat and the urban ward. Thus the computed CDDI cannot be generalized for the whole district.

The report makes it clear that administrators in Bengaluru Urban district have to concentrate in reducing gender inequality, improve food security, and work on the facilities available in the district to improve child development outcome of the district.

The district has four rural taluks: Bengaluru North, Bengaluru South, Bengaluru East, and Anekal. These four taluks, in terms of population form a small proportion of the total population of the district, which primarily lives in Bengaluru City/Bruhat Bengaluru Mahanagar Palike (BBMP). The indices computed for the taluks of Bengaluru Urban district show that with respect to Human Development Index, the rural taluks of Bengaluru Urban district have outcomes that are among the best in the state. Anekal taluk requires a lot of improvement while the other three taluks seem to be performing relatively better. Bengaluru South taluk has the least gender inequality among all the taluks in the district, all the other taluks of Bengaluru Urban district are distant from Bengaluru South and have a lot of scope for improvement. It is clear that all the taluks in the district have much work to do in food security as well as child development outcomes. Analysis with respect to HDI makes us understand that there is work to do for BBMP as well as Anekal town municipal council.

Improving the indices for Bengaluru Urban district implies improving in the underlying pillars of the indices. We have already mentioned that education, health, and livelihood are the three important dimensions for human development. In addition to providing salient features on these three dimensions we also mention the salient features on the issues of gender, marginalized groups, and standard of living. Since a majority of the population of the district lives in urban environs we also highlight urban issues that stand out from the study.

Education and Health

Bulk of the school enrolment in the district is in private unaided schools, this is despite

the fact that these schools have among the highest pupil to teacher ratio, and thus private unaided schools have an important role to play for the district to attain better educational outcomes. Improving the pass percentage of students appearing class ten exams and improving the infrastructure available in schools of the district are other areas in the education sector where attention needs to be given. In the health sector, given the huge population of Bengaluru City, the magnitude of challenge faced by BBMP while providing the health services is enormous. People from nearby districts also prefer Bengaluru City for its health services, this only compounds the challenge. The private health care industry also provides healthcare services in the district; this though desirable is not ideal given the high cost involved and the lack of social security in the country.

Gender and Livelihood

The change in the gender or sex ratio from 2001 to 2011 for Bengaluru Urban district has been very gradual. The relatively low gender ratio of the district highlights the importance of creating awareness on the importance of the girl child. This awareness can be created through public debate and discussion and other channels of communication including the media. Female literacy rate in Bengaluru City is yet to catch up with the male literacy rate. There are 61 wards in Bengaluru City that have female literacy levels less than the district average of 84 per cent, which is a reason for concern. This clearly shows there is lot of work to be done with respect to increasing female literacy rate not only in other sub-districts but also in the wards of Bengaluru City. Progress with respect to enrolment of girl child in schools seems to be satisfactory. At the district level, compared to 2001 the female participation in the labour force has increased in 2011, this increase is more in the form of marginal female workers, which given the lack of social security in the country is not a desirable outcome. Women are represented well in Gram and Taluk panchayats as well as the Zilla Panchayat of Bengaluru Urban district. Representation of women in Urban Local bodies in the district has remained below 40 per cent, suggesting that there is room for improvement. Women in Bengaluru seem to be enthusiastically participating in self help groups, which is a heartening feature.

On the livelihood front, a majority of the households in district do not own land; in Bengaluru South more than three-fourths of the households do not own land. Thus the dependence on other activities for livelihood has increased. As per Census data, from 2001 to 2011, the share of marginal workers in the total workforce of the district has increased from 7.3 per cent to 9.1 per cent, while the share of main cultivators, main workers in household industries, and main Other workers has decreased. This is a reason for concern. One fourth of the families in the district hold BPL cards, this shows that a significant proportion of the population in the district is yet to come out of the poverty trap. Due to the numerous opportunities provided by the City, the number of households availing 100 days of work in the rural employment guarantee scheme is very low; this

indicates the better wages obtained in other economic activities, for example construction, in the district. This finding also emphasizes the need for an urban safety net in the district so that the marginal workers have something to lean on during the downturn in the economic cycle.

Scheduled Castes and Tribes

The proportion of scheduled castes (SC's) and scheduled tribes (ST's) living in urban areas of the district, as per Census 2011, has increased drastically. At the district level, gender ratio for SC and ST has increased, which indicates changing social practices. The gender ratio for the ST community in the wards of Bengaluru City has high variation while the gender ratio in the SC community in the wards of Bengaluru City, on an average, is relatively better. Thus there is a need to focus on improving the gender ratio in ST's. The number of SC boys and girls who drop out of the education system after class 10 is substantial. This trend is also seen among ST boys and girls. Thus education policy with respect to SC and ST needs to be sensitive and fine tuned to counter the social phenomenon that forces SC and ST boys and girls to drop out of school. Sanitation practices of the ST's are better than that of the SC's, this is true both in the rural as well as urban areas of the district. Thus there is a need to create awareness about better sanitation practices among the SC community in the district.

Standard of living and Urban issues

As per Census 2011, around 87 thousand households in the district do not have access to houses, and even among those households who live in houses there are around 1.5 lakh people in the district who live in dilapidated houses; these residents of the district need help from the government. Households in the rural and urban part of the district show different features with respect to the assets they own. For example, a larger proportion of households in rural areas of the district tend to own bicycle than those in the City, this seems likely due to better transportation facility in the City. The proportion of households owning no assets is much lesser in the City compared to that of rural areas. There are almost two lakh households in the district that have to walk some distance from their homes to get their daily share of drinking water. 3.2 per cent of households in Bengaluru City do not have latrine within premises, which by any extent is not a magnitude that can be brushed under the carpet given that the area is primarily urban and can quickly lead to unhygienic conditions. It is also found that there is a preference in rural taluks of using open spaces as toilets, thus there is a need for policy to emphasize not only on provisioning of facilities but also increase awareness about the health outcomes of better sanitation practices and the disadvantages of the lack of it. This clearly shows that more efforts are needed to improve the standard of living of these people.

The rapid growth of Bengaluru City in the past few decades has increased the number of challenges in water supply, sewerage, drainage, solid waste management, roads

and transportation, and civic amenities. The growth of the City has increased income but has also led to tremendous inflow of people, which has increased construction activity as well as congestion and traffic. The cost of the haphazard growth has been through an increase in the number of health issues, which has affected all the residents of this City. The only way out of this situation would be to increase awareness among the residents on the various issues that have cropped up due to the indiscriminate growth of the City. Though action is required from numerous service providers, the need of the hour is active involvement of the citizen so that the problems that have cropped up are controlled and resolved. This will ensure all round human development of the residents of the City.

Way forward

Given the increasing migration into Bengaluru City, the way forward for Bengaluru urban district would be to focus on policies that improve the education, health, and livelihood standards of people in district. Improving the pass percentage of students appearing class ten exams and improving the infrastructure available in schools of the district other areas in the education sector where attention needs to be given. The expenditure on education by the Zilla Panchayat is way below prescribed standard norms; hence, there is an urgent need to increase the district expenditure on education. Looking at the gender ratio in the district it is apparent that there is a need to increase the awareness on the importance of the girl child among the residents of the district. The study also emphasizes the need for an urban safety net so that the marginal workers have something to lean on during the downturn in the economic cycle. The cost of the haphazard growth has been through an increase in the number of health issues, which has affected all the residents of this City. The only way out of this situation would be to increase awareness among the residents on the various issues that have cropped up due to the indiscriminate growth. Though action is required from numerous service providers, the need of the hour is active involvement of the citizen so that the problems that have cropped up are controlled and resolved. This will ensure all round human development of the residents of the City.

Part - II

1. Introduction





1.1 Concept and Methodology

Given the day in day out discourse in the media on economic growth, the average person cannot be blamed for the impression that growth and development are the same. Economic growth is the increase in the capacity of an economy to produce goods and services, compared from one period of time to another. It is conventionally measured as the percent rate of increase in real gross domestic product, or real GDP. Economic development, on the other hand, generally refers to the actions of policymakers and communities that promote standard of living and economic health of a specific area. Economic growth is just one aspect of the process of economic development. Compared to economic growth, development is more inclusive with aims of economic and social well-being of people, not just a phenomenon of market productivity and rise in GDP. Economic development thus includes the process and policies by which a nation improves the economic, political, and social well-being of its people.

The concept of human development is captured succinctly in the quote of Mahbub ul Haq, "The basic purpose of development is to enlarge people's choices. In principle, these choices can be infinite and can change over time. People often value achievements that do not show up at all, or not immediately, in income or growth figures: greater access to knowledge, better nutrition and health services, more secure livelihoods, security against crime and physical violence, satisfying leisure hours, political and cultural freedoms and sense of participation in community activities. The objective of development is to create an enabling environment for people to enjoy long, healthy and creative lives."

The United Nations Development Programme (UNDP) methodology of measuring quality of human development is based on the level of achievements in education, health, and per capita income of a country; it is a composite measure introduced as an alternative to economic assessments of national progress, such as GDP growth. Since the most basic requirement for human development is to live a long and healthy life, be educated and have access to resources needed for a decent standard of living; it is natural that once these are attained, the choices of opportunities that people have will automatically get widened in the development process. The human development index (HDI) thus was a breakthrough, in the sense, that it created a single statistic that served as a frame of reference for both social and economic development.

The methodology that has been adopted for the district human development report has kept in view the basic three dimensions of human development, namely health, education and standard of living. Since obtaining data at the taluk level is the key, importance to data availability has also been given while designing the methodology. Thus both international norms as well as data availability at the local level have been given their due importance. Index values are based on a maxima and minima thus all values are normalized on a scale of 0-1.

1.2 Factors contributing to Human Development

Education, Health, and Standard of living are the three important factors contributing to human development. In the following paragraphs, we briefly touch upon the importance of each of these factors for human development.

Education

Research has time and again emphasized that the influence of education is widespread and education has a positive impact on all types of human development outcomes. It has been observed that educated parents provide better nutrition and healthcare for their children as well as themselves. Education not only makes one skilled with respect to the labour force but also improves confidence, self esteem, and enhances social status. Educated women are more independent than uneducated women, and as mothers are vocal about the need for education for their children. Literacy is one of the fundamental parameters of educational attainment as it opens the channel for further learning and training in their formative years. Literacy rate is one of the important indicators of the development of a population, with the educational level seen as determinant of its quality of life. Literacy is a tool that not only empowers the person but also adds value to her/his life and thus playing a crucial role to her/his development. At the macro level a literate society has a higher capability than a less literate society. The strong correlation between lack of literacy and poverty has been well established. A literate person does not experience the deprivation of capabilities or lack of economic opportunities experience by somebody who is not literate. Female literacy, in particular, is of vital importance for the future of the nation, as a child's health is crucially linked to the mother's literacy.

Health

The importance of good health cannot be over emphasized, suffice to say it is both a necessary and sufficient condition to use the opportunities that life presents. Adequate nutrition for the body is an essential for good health. Thus health and nutrition are intricately linked to each other, depending on the living conditions they can either be in a virtuous cycle where improvement in one benefits the other and this cycle continues, or a vicious cycle where fall in one leads to a fall in the other and this cycle continues. Healthy citizens by their constructive economic activities contribute to the growth and development of a country in numerous ways. Healthy children generally have better school attendance and learning which later turns out to be a good basis for higher earnings. Thus healthy children and women provide the foundation for growth and development of the country, which is a challenge given the huge population of India.

Standard of Living

Standard of living is an important parameter that determines as well as signals the control over resources, which is required to access food, shelter and clothing, and permit broader options such as working in meaningful and rewarding activities, or spending more time with loved ones. Wage or income is a good indicator of standard

of living. Households and individuals that have more resources under their control generally have enhanced capabilities. The household's income, which is determined by the employment of household members and their ownership of assets, holds the key for controlling resources. Households that do not hold resources are generally considered poor.

Growth of the economy improves opportunities available and hence is an essential condition for poverty reduction. Economic growth generally reduces poverty through various outcomes that complement each other. For economic growth to reduce poverty on a sustainable basis, policy interventions for the enhancement of health and education are required. Education has a positive impact on health, while health is necessary for education. Thus synergies involving factors are created which leads to enhancement of capabilities among individuals. Education and health increase employability which leads to increase to income and reduction in poverty. It also has been observed that people having better standard of living generally have better health. A better standard of living also enables to access better houses, housing amenities, sanitation, and other facilities, which reinforces the health of the individual.

1.3 Data Collection, Compilation and Validation

Data collection forms an important component of whole exercise, it is apparent that data collection has to be from numerous sources. Census has been the main source of information for a majority of the 126 indicators that have computed as a part of the report. Data was also collected from the Zilla Panchayat, health department, education department, women and child department, agriculture department, economics and statistics department, food and civil supplies department, rural development and panchayati raj department, labour department, district statistical office, district commissioner office, urban local bodies, gram and taluk panchayats.

Each of the above departments was contacted and was requested to give the necessary data. Few departments immediately shared the required data while some had to be contacted frequently till the time the data was obtained. The data was validated using a three step process. First raw data was checked, followed by check with Chief Planning Officer of the Zilla Panchayat, and finally followed by check with line department. This procedure was also followed for each of the 126 indicators that had to be computed as a part of the report so that the indices could be calculated. Details of the indicators can be seen from the next section.

1.4 Measurement of Indices

The district human development report computes seven indices: Human Development index (HDI), Gender Inequality index (GII), Child Development index (CDI), Food Security index (FSI), Urban Development index (UDI), Composite Taluk Development index (CTDI), and Composite Dalit Development Index (CDDI). Table 1.1 shows the various indicators used for HDI, GII, CDI, FSI, and UDI.

Table 1.1: Indicators used for measuring the indices

HDI	GII	CDI	FSI	UDI
Percentage of Households having access to Modern Cooking Fuel	Maternal Mortality Rate	Child Mortality Rate (0-5 years)	Cropping Intensity	Percentage of ULB population to total population in the taluk
Percentage of HHs having access to Toilet	Share of Institutional deliveries	Percentage of Malnourished Children	Percentage Change in Net Sown Area over the years, 2001–2011	Percentage of Households without Own Houses
Percentage of HHs having access to Water	Share of Pregnant Women with Anemia	Percentage of Children born underweight	Per capita food grain production (in Kgs)	Percentage of Slum Population to Total ULB Population
Percentage of HHs having access to Electricity	Share of female elected representatives in PRIs and ULBs	Percentage of Drop-out Children Mainstreamed at primary and secondary levels	Percentage of forest cover to total geographical area	Water Supply – Percentage of HHs with Tap water connection)
Percentage of HHs having Pucca Houses	Share of male elected representatives in PRIs and ULBs		Irrigation Intensity	Percentage of HHs Sewerage and Drainage
Percentage of Non agricultural workers	Share of female children in the age group 0-6 years		Percentage of area degraded to Total Geographical Area	No. of Hospital Beds per 1000 population in urban area
Per-capita Income (GDP at taluk level at current prices)	Share of male children in the age group 0-6 years		Percentage of leguminous (area under pulses) crops in the Gross Cropped Area	Percentage of Own Resource Mobilization to Total Receipts
Child Mortality Rate (0-5 years)	Share of female literacy		Percentage of Below Poverty Line Card holders to Total Card holders	Per capita expenditure on Development Works
Maternal Mortality Rate	Share of male literacy		Per capita income (GDP at current prices in the Taluk)	Length of roads in Kms per Sq. Km of geographical area
Literacy Rate	Share of Female Work Participation Rate		Percentage of non-agricultural workers to total workers	Crime Rate per 10000 Population
Gross Enrolment Rate: Primary, Upper primary, and Secondary school levels	Share of Male Work Participation Rate		Average size of holdings (Total area of holdings / Total No. of holdings)	Road accidents per 10000 population
	Share of female workers in the non agricultural sector to Total Female workers		Percentage of agricultural labourers to total workers	
	Share of male workers in the non agricultural sector to Total Male workers		Percentage of villages having PDS outlets within the village	
	Female Agricultural wage rate		Child Mortality Rate (0-5 years)	
	Male Agricultural wage rate		Percentage of HHs with access to Water	
			Percentage of pregnant women with Anemia	
			Percentage of Malnourished Children	
			Percentage of Children born underweight	
			Female Literacy Rate	

Note: HH - household, PRI - Panchayat Raj Institutions, ULB - Urban Local Body, PDS - Public Distribution System, Kms - Kilometres, Sq. Km - Square Kilometre.
Source: Guideline Document, Human Development Division, Planning Programme Monitoring and Statistics Department, Government of Karnataka.

The comprehensive nature of the indices can be clearly seen from the table. Standard of living in HDI is measured by seven indicators, health and educational achievements by two indicators, each. There are fifteen indicators that have been used to measure GII, three represent reproductive health, six represent empowerment while the remaining six represent the labour market. Four indicators have been used to construct CDI, one represents health, two represent nutrition, and one represents educational achievements. Nineteen indicators have been used to construct the FSI, seven indicators represent availability, six represent accessibility, and six represent absorption capabilities. Finally, eleven important indicators have been used to construct the UDI. The CTDI is constructed using all the indicators, in all 68 in number, pertaining to the development of a district. Following are the indicators for CTDI:

Table 1.2 Indicators used for constructing CTDI

1.	Decadal population growth rate
2.	Population Density
3.	Sex ratio
4.	Percentage of Slum Population in the taluk to Total population in the taluk (2011 census)
5.	Percentage of Population in the age group of 0-6
6.	Child sex ratio
7.	Infant Mortality Rate (0-1 years)
8.	Child Mortality Rate (0-5 years)
9.	Maternal Mortality Rate
10.	Percentage of women headed households
11.	Percentage of BPL Cards issued to Total Ration Cards
12.	Cropping Intensity
13.	Irrigation Intensity
14.	Percentage of Households provided employment to total number of households registered under MGNREGS
15.	Ratio of average agricultural wage to Minimum wages prescribed by the State
16.	Work Participation Rate
17.	Decadal Growth rate of Employment
18.	Percentage of Cultivators to Total workers
19.	Percentage of main workers to total workers
20.	Percentage of workers in Household Industries
21.	Percentage of Agriculture labourers to Total workers
22.	Percentage of Households with Pucca houses
23.	Percentage of Site less Households
24.	Percentage of Households provided with house sites
25.	Percentage of Houses constructed for houseless poor families (RDPR data)
26.	Percentage of households with cycles
27.	Percentage of households with two-wheelers

28.	Percentage of HHs with no assets
29.	Percentage of Households with electricity
30.	Percentage of HHs having access to Modern Cooking Fuel
31.	Percentage of women elected representatives in rural local bodies
32.	Percentage of elected SC/ST representatives in rural local bodies
33.	Percentage of women elected representatives in urban local bodies
34.	Percentage of elected SC/ST representatives in urban local bodies
35.	Percentage of active SHGs
36.	Percentage of pregnant women receiving full ANC
37.	Percentage of Pregnant Women with Anemia
38.	Percentage of Institutional deliveries
39.	Percentage of children fully Immunized
40.	Percentage of Children born underweight
41.	Percentage of Mal-nourished Children
42.	Percentage of people affected by major communicable diseases
43.	Average Population served by sub-centres
44.	Average Population served by Primary Health Centres
45.	Availability of Doctors per 1000 population
46.	Availability of nurses per 1000 population
47.	Average population served by Anganwadi centres
48.	Percentage of villages having Anganwadis within a km. distance
49.	Percentage of couples protected by any contraceptive method
50.	Per capita Health Expenditure
51.	Percentage of Gram Panchayats Selected for Nirmal Gram Puraskar Awards to Total number of Gram Panhayats
52.	Percentage of Households with toilets
53.	Percentage of Households with drainage facility
54.	Percentage of HHs provided with Drinking Water
55.	Percentage of Literacy
56.	Gross Enrolment rate – Elementary School
57.	Net Enrolment rate – Elementary School
58.	Dropout rate in Elementary education
59.	Percentage of Drop-out Children Mainstreamed at primary and secondary levels
60.	Student – Teacher ratio for elementary education
61.	Secondary school Gross Enrolment Rate (15-16 years)
62.	Drop-out rate in secondary education
63.	SSLC pass percentage
64.	Student - Teacher ratio for secondary education
65.	PUC pass percentage
66.	School Infrastructure Index
67.	Per capita Education Expenditure
68.	Percentage of villages having a Primary School within 1 km. distance

The mathematical technique used for computing the indices using these indicators is the standard technique adopted by UNDP. We will also explain the mathematical technique used for the computation of each of the indices in chapter 3.

1.5 Concluding Remarks

The three pillars on which human development stands are Education, Health, and Standard of Living. It is clear from the discussion above that strengthening one pillar reinforces the strength of the other two pillars increasing the potential for better human development. The reverse of this cycle is also true, i.e. if one of the pillars is weak then it weakens the other two pillars lowering the potential for better human development. Needless to mention, each of the factors mentioned above is affected by numerous sub-factors. Thus in conclusion it may be said that policy makers need to try their best to ensure that the policies that are designed and implemented are such that conditions are created in the society, which strengthen the three pillars of human development.



2. District Overview











2.1 Introduction

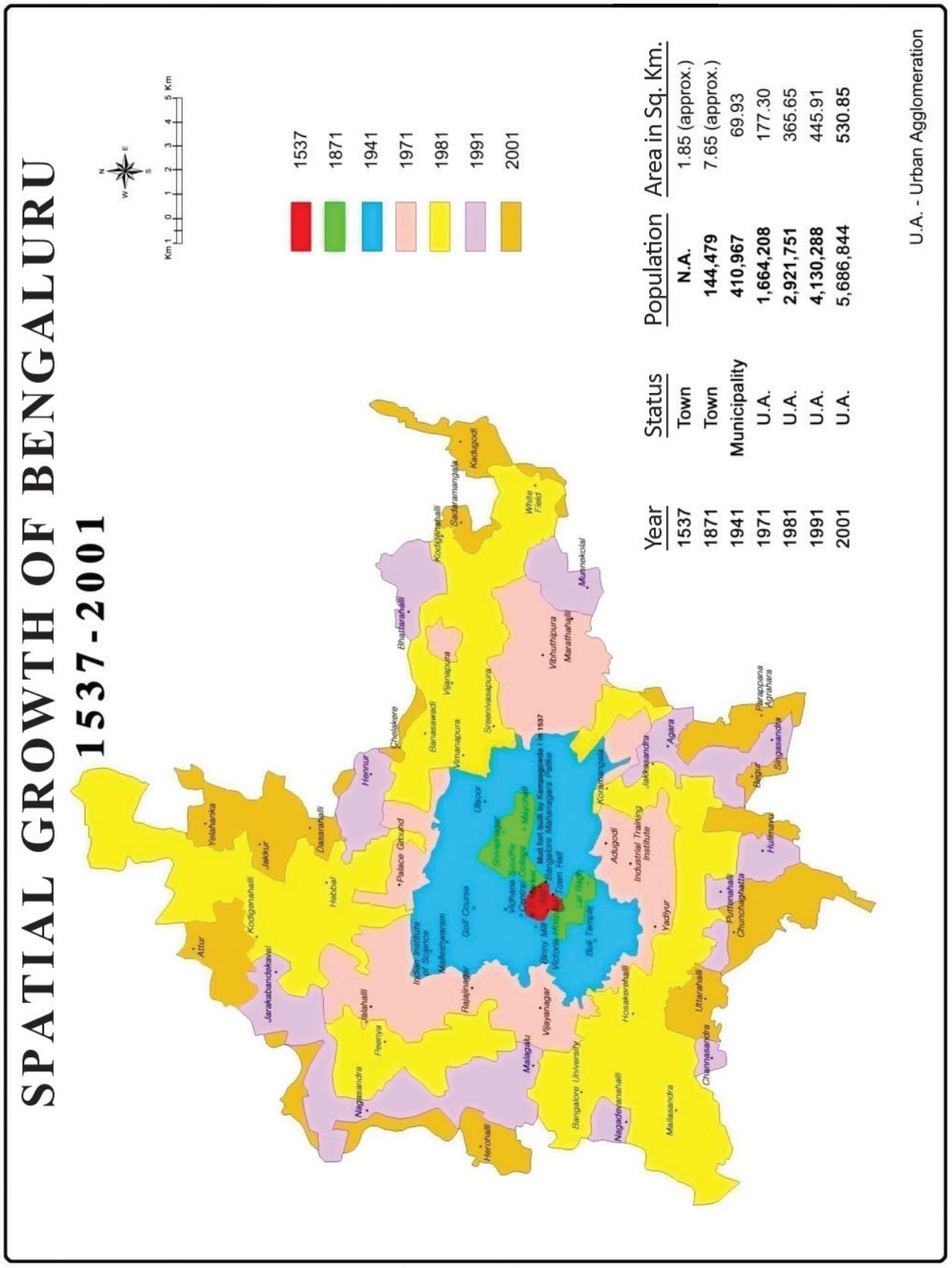
Bengaluru Urban district is located on the Decccan Plateau in the south eastern part of Karnataka. The district is land locked and shares its borders with Bengaluru Rural district on the north and the east, Ramanagaram on the west, and with the state of Tamil Nadu in the south. The average elevation of the district is around 900 to 1000 metres, which endows it with a salubrious climate. The district has four taluks: Bengaluru North, Bengaluru South, Bengaluru East, and Anekal. These four taluks, in terms of population form a small proportion of total population of the district, which primarily lives in Bengaluru City.

2.2 Background and Brief Regional History

Bengaluru was founded in the year 1537 by Kempe Gowda, who asked his men to cut a thick jungle with wild weeds to build a township that was surrounded by a strong mud fort. The fall of the Vijayanagara empire in 1565 shifted trade routes and commercial activity towards the south and made it possible for the town of Bengaluru to attract artisans and merchants to relative security behind it mud walls and moat. Bengaluru thus inherited Vijayanagara's role as the leading economic centre in the plateau region of peninsular India (page 26, Heitzman 2004). The rule of Kempe Gowda III over Bengaluru ended in 1638 when he was defeated by an army from Bijapur and Bengaluru became a part of the jagir of Shahji Bhonsle. This, however, did not last long as in 1687 the Mughal empire defeated the Sultanate of Bijapur and Bengaluru as well. Bengaluru was then sold for a sum of three lakh rupees by the Mughals to the emerging Mysore state (page 27, Heitzman 2004). The city which had become a flourishing commercial centre was given by the Wodeyar Kings of Mysore as a personal revenue grant to their commander Haider Ali in 1758. One of the important contributions of Haider Ali to Bengaluru is the construction of Lal Bagh, a Persian style garden south east of the fort in 1760. During the rule of Haider Ali as well as that of his son Tipu Sultan, Bengaluru experienced growth in sericulture, textile production, and production of metal goods. Prosperity of Bengaluru was however short lived, as the British plundered the city in 1791 which affected many merchants in Bengaluru forcing them to leave the city.

Under the British, Bengaluru was still as regional trading centre for a wide variety of raw materials and manufactured goods, especially silk weaving. They also transformed the administration such that Bengaluru became a node in the colonial information network. The first telegraph line of Bengaluru and the first railway line of the state ended at the cantonment, a place where the British lived in city. The British also constructed the Sankey Tank reservoir by improving a natural lake north- west of the city. To ensure water for the growing population the Hesaraghatta reservoir was constructed in 1896 by building a dam on the river Arakavathy about twenty kilometres north-west of the city. In the year 1900, Bengaluru also had the distinction of being the first electrified city in India. Industrialization arrived as early as 1877 in Bengaluru when steam powered factories were set-up for production of textiles (for example, the Bengaluru Woolen factory).

Map 2.1: Growth of Bengaluru City



Source: Census 2001, Department of Census, Government of India

This was followed by the Minerva Mills in 1925 and the Shri Krishna Spinning and Weaving Mills in 1933, both of which were located on the western part of the city. This was followed by the Mysore Industrial and testing Laboratory (1931), Amco Limited (1934), and Mysore Lamp Works (1936) to name a few. Thus, due to the steady accretion of industries that applied low-level or mid-level technologies, a technological base was being created which helped Bengaluru gain a reputation as a leading industrial city in India. This reputation seems to have helped Bengaluru as the Central government of independent India supported four large public sector units in Bangalore.

Map 2.1 shows the growth of Bengaluru City from 1537 till 2001, this will help us understand the growth of Bengaluru from a very small settlement to an urban metropolis.

The following box item that describes the transformation of the City helps us understand this process better. This information is from the Census of India -2001, from the section on Karnataka. This rich extract not only gives us a chronology of the history of the place but also gives the chronology of foundation of important institutions, formation of extensions in the City, chronology of the administrative authorities constituted, markets that were established in the City, and finally the chronology of the educational institutions and the industries that were opened.



Well known landmarks of Bengaluru City

Bengaluru Fort

HISTORY OF GROWTH AND) DEVELOPMENT OF BANGALORE

PRE-HISTORIC TIMES

4000 B.C. **(Middle stone age)** Stone implements found at Jalahalli, Sudasandra, Siddhapura, Jadigenahalli (outskirts of todays Bangalore)

1000 B.C. – **(Iron age)** Burial grounds found at Koramangala and Chikkajala (24 km)

– Pre-historic sites found near Anekal, Tarabnahalli and other places

EARLY HISTORY

27 B.C. Coins of Roman emperors Augustus, Tyberius, Cladius found at Yeshawanthapur and HAL indicating the Bangalore region's transoceanic contacts

850 A.D. The name Bengalooru occurs for the first time on a 9th century stone inscription at Begur Part of Gangavadi 96,000, a village in the Ganga kingdom. (The suffix is a numerical code of those days)

A VILLAGE IN THE CHOLA EMPIRE

C. 1024 Became a part of the Chola empire which conquered the Ganga kingdom. The south Bangalore region was called Nikarilacholamandala

FOUNDING OF BANGALORE

1537 Kempegowda I (1513-1569), a local cheftain in the Vijayanagar Empire, builds the town of Bangalore in the Yelahanka province. His son builds the famous four watch towers*

FALL OF VIJAYANAGAR

1564 - In the midst of turmoil in the wake of the great empire's fall. Kempegowda
- continues to rule the town and the Yelahanka province

CONQUERED BY THE BIJAPUR ARMY

1638 Led by Ranadulla Khan with Shahaji Bhonsle, father of the great Shivaji, as second in command, captures the Bangalore fort Mohammed Adil Shah, Sultan of Bijapur, gifts Bangalore and surrounding areas as Jagir to Shivaji

THE MARATHA RULE

1640 Shivaji, his mother Jijabai and teacher Dadaji Kondadeva visit Bangalore. Shivaji's marriage takes place in Bangalore

1644	Venkaji, step brother of Shivaji, inherits Bangalore. Venkaji usurps the Tanjore principality, and decides to sell Bangalore to Chikkadevaraja Wodeyar, King of Mysore. In the meantime, Mughal ruler, Aurangazeb sends his general Khasim Khan to take Bangalore
	LOST TO THE MUGHALS
1687	Mughal Army captures Bangalore. For three years, Bangalore is under the rule of the Mughal subedar of Sira province
	PURCHASED BY THE MYSORE'S WODEYAR
1690	The Sira subedar sells Bangalore to Chikkadevaraja Wodeyar for 3 lakh pagodas (1673 - 1704). Bangalore becomes a part of Mysore kingdom
	HYDER ALI'S JAGIR AND A GARRISON TOWN
1759	Hyder Ali receives Bangalore as jagir from Krishnaraja Wodeyar II. Hyder Ali fortifies the southern fort and makes Bangalore an army town.
1760	Hyder Ali plans Lalbagh gardens with an expanse of 16 ha, importing plants from Delhi, Lahore and Multan. Tipu Sultan expanded the gardens and added exotic plants imported from Kabul, Persia, Mauritius and Turkey
1781	Tipu Palace by Hyder Ali (started in 1761 completed in 1791)
1791	British under Lord Cornwallis defeat Tipu Sultan, occupy Bangalore for a year. As per the treaty of Serirangapatam, Bangalore returned to Tipu Sultan
	BACK TO THE WODEYARS
1799 -	Tipu Sultan dies in the Fourth Mysore War. As per the Partition Treaty, Bangalore is restored to the Mysore Kingdom under the rule of Krishnaraja Wodeyar III, British resident functions from Bangalore
	Bangalore a part of Tipu Sultan's postal network comprising Srirangapatna, Bidanur, Gutti, Gurramkonda, Chitradurga and Sira
1800 - 1900	British encourage trading in Bangalore but discourage manufacturing
1800	Bangalore G.P.O. (then Imperial Post Office) opened
1803	A runner line of postal service between Bombay, Madras and Bangalore established
	THE BRITISH CANTONMENT
1809	South India's largest Cantonment is established at Ulsoor near



Well known landmarks of Bengaluru City

Tipu Palace

		Bangalore
1812		St Marks Cathedral
1831		The British take over the administration of the Mysore Kingdom, because of alleged misrule by Krishnaraja Wodeyar III
	DIRECT RULE OF THE BRITISH- THE STATE HEADQUARTERS	
1831-81		Under direct British rule, Bangalore becomes administrative headquarters of the state. While Wodeyars of Mysore and their Dewans ruled the state from Mysore, the British empire's representative was the Resident in Bangalore
1886	-	St Martha's Hospital started by the Good Shepherd nuns
	-	The Bowring Institute founded
	-	First Lodges in Bangalore
	-	1889 The Lalbagh Glass House built - Chamarajendra Sanskrit College
	-	Bangalore-Harihar railway line
1896		Hesargatta water supply commissioned
1898		The Great Plague epidemic
1898-99	-	The Plague epidemic results in modernisation of Bangalore, new extensions created, health and sanitation facilities improved
	-	Telephone services commissioned
1901		Victoria Hospital established in commemoration of Queen Victoria's Daimond Jubilee
1902		Vanivilas Hospital, High School, road named in memory of Vanivilas Sannidhana, the Queen Regent of Mysore
1903		The first motor car on the roads of Bangalore
1904	-	Ramakrishna Ashrama established in Basavanagudi
		Gayana Samaja started
1905	-	The first city in India to get electricity
	-	Bangalore's first electric lamps lit at City Market
1906		Prince of Wales visits Bangalore, accompanied by his wife unveils the statue of Queen Victoria at Cubbon Park
	-	Tata Silk Farm established south of Basavanagudi (the farm no longer exists)
		Bangalore-Chikballapur narrow-gauge railway started by a private company



Well known landmarks of Bengaluru City

Victoria Hospital

1907	Shankar Mutt built
1908	Bangalore city had nine municipal divisions namely, Palace, Balepet, Manivartapete, Halsurpete, Nagaratpete, Lal Bagh fort, Basavanagudi and Malleswaram
	A Veterinary Hospital established
	The Cantonment gets electric power
1909	Viceroy Lord Minto visits Bangalore
	Minto Opthalmic Hospital construction starts
	- Indian Institute of Science established
	- Mythic Society established
1910	- General Hospital opened in Malleshwaram and named after. Princess Kempu Cheluvarajammanni
	- A theological college started, Rev. E.RRice, Rev. B.Rice, Rev. Hudson belonged to this mission
1912-14	Sir M.Visvesvarayya, the great engineer-statesman, sets up many pioneering institutions during his tenure as Dewan
1913	Dewan Visvesvarayya founded State Bank of Mysore
1915	The first Kannada Literary Conference takes place. Mysore Economic Conference held at Bangalore Chamber of Commerce formed
1917	The Theosophists start the famous National High School in Basavanagudi
	The Century Club
1918	Central College Karnataka Sangha started
1920	The Bangalore Race Club formed
1921	The military population in Bangalore reached its highest strength, since then it has decreased
1927	Silver Jubilee celeberations of Maharaja Krishnaraja Wodeyar IV, S.J.Polytechnic and S.J.Park set up to commemorate the event. Mahatma Gandhi received handsome donations from the citizens of Bangalore, for Khadi work
1928	"Ganesha disturbances", the great communal clash between Hindus and Muslims over an inocuous little temple in Sultanpet
1933	Thippagondanahalli Reservoir commissioned to supply drinking water to the city (population 3.5 lakhs)
1934	Gandhiji visits Bangalore again, lays the foundation of a Harijan



Well known landmarks of Bengaluru City

Indian Institute of Science



Well known landmarks of Bengaluru City

Visvesvaraya Museum

	hospital on Magadi Road
1927 & 1934	Mahatma Gandhi visits Bangalore
1935	Akashavani. (AIR) begins broad casting
1937	Bangalore connected by air to Bombay by Indian Aviation Development Co.
1942	Entire Bangalore city joins Gandhiji's 'Quit India" Movement
	AFTER INDIA'S INDEPENDENCE
1949	The Bangalore Municipal Corporation formed by merging the city, civil and military stations
1955	Vidhana Soudha built, housing the State Secretariat and legislature
1956	Bangalore becomes the capital of unified Greater Mysore
1961-71	Industrial townships of HAL, BEL, HMT and ITI built
1964	Bangalore University established
1973	Parthenium weed begins to afflict the city's environs
1986	Bangalore district was bifurcated into two districts namely, Bangalore and Bangalore Rural
	SCIENCE AND TECHNOLOGY CAPITAL OF INDIA
1955	Government of India undertakings in hi-tech areas viz, aircraft, telephones, machine, tools, electronics established in- Bangalore
1970 -	High-technology industries, institutions of higher learning and favourable climate help. Bangalore become the science and technology capital of India
1980-94	Bangalore becomes the preferred location for computer hardware and software companies, making it the "Silicon Valley of India"
1995	International Technology Park established
	FORMATION OF EXTENSIONS
1872	Seshadripura and Chamarajpet were laid down
1892	Chamarajpet was formed and added to Bangalore
1898	Basavanagudi and Malleswaram added to Bangalore
1908	Shankarapuram
1915	Gavipura
1916	Sriramapuram
1918	Viseswarapuram
1921-31	Venkatarangapura, Gavipura- Guttahalli, Kalasipalya and West of Central Jail a new extension were added to Bangalore



Well known landmarks of Bengaluru City

Vidhana Soudha

1931-41	Kempapura Agrahara on Magadi Road and Ramachandrapura
1947(July)	Civil administration of contonment transferred to Krishnarajendra Wodeyar IV
1949	City, civil and military Cantonment merged
1951-61	Devarajeevanahalli, Jalahalli, Jodi Kempapura, Kadugondanahalli, Kethamaranahalli (Rajajinagar), Yeswanthpur included in the city
1971	Concept of urban agglomeration introduced in Census
1972	Establishment of Indian Satellite Research Organisation
1974	Cauvery water supply commissioned
1981	Hebbal, HMT Watch Factory, Kengeri, Krishnarajapura, Lingarajapura, Baiyyappanahalli, Sarjapura included in the Bangalore Urban Agglomeration
	AUTHORITIES CONSTITUTED
1923	First Municipal Commissioner appointed
1945	CITE constituted
1949	Corporation constituted
1959	Department of Town Planning constituted
1964	Bangalore Water Supply and Sewerage Board (BWSSB) established
1965	City Planning authority formed
1975	Slum Clearance Board formed
1976	Bangalore Development Authority (BDA) constituted
1978	Passport office begins work
1981	Doordarshan (TV) comes to Bangalore
1987	Bangalore Metropolitan Region Development Authority constituted
1996	Constitution of six city municipal councils around 'Bangalore namely Byatarayanapura, Mahadevapura, Krishnarajapura, Pattanagere, Dasarahalli and Bommanahalli Conversion of Yelahanka town municipal council to city municipal council
	MARKETS
1927	Russel Market
1928	Krishnarajendra Market (City) Johnson Market
	EDUCATIONAL INSTITUTIONS
1820	Wesley mission begins work in education
1840	First Kannada School for girls established
1857	Education Department established



Well known landmarks of Bengaluru City

Indian Satellite Research Organisation

1865	The Bishop Cotton Women's Christian Law College, the great grandchild of the prestigious Bishop Cotton School, established in Bengaluru.
1882	St. Joseph's College opened Established St. Joseph's College (Autonomous), Bengaluru is one of the oldest colleges in the State of Karnataka with a history of more than 130 Years behind it.
1886	The University was opened as the Central College, Bengaluru by the British Government to award University degrees. In 1964 it was renamed as the Bangalore University from Central College, Bengaluru by the UGC, India by the government under the State of Mysuru to consolidate institutions of higher education in the city of Bangaluru.
1912	SSLC Board constituted
1915	Kannada Sahithya Parishat established
1916	Mysore University established. All Bangalore colleges affiliated to Mysore University
1917	National High School - UVCE
1923	Established in Bangalore as Imperial Institute of Animal Husbandry and Dairying.
1932	Sri Jayachamarajendra Technical Institute begins technical education
1936	Renamed "Imperial Dairy Institute". Indian Dairy Diploma-a two year course started.
1939	Maharani's College for women
1942	Bangalore High School opened
1944	St. Theresa Teacher's Training College
1946	BMS Engineering College
1947	Raman Research Institute founded by Nobel Laureate C.V.Raman
1953	Air Force School Manipal Hospital founded in Bengaluru City
1955	Bangalore Medical. College National Dairy Research Institute came into existence at Karnal, at the former Central Cattle Breeding Farm. Bengaluru facilities



Well known landmarks of Bengaluru City

Town Hall

		became Southern Regional Station of the Institute.
1962		Kendriya Vidyalaya formed
		M S Ramaiah Institute of Technology started in Bengaluru
1963		St. John's Medical College and Hospital and School of Nursing were started in 1963, 1975 and 1980 respectively at Bangalore by the C.B.C.I. Society for Medical Education
1964	-	University of Agricultural Sciences Jnanabharathi Campus (Bangalore University
1969		Christ University, formerly Christ College (Autonomous) affiliated to Bengaluru University was established. It became the most preferred educational institution in the city of Bengaluru within the first three decades.
1970		PUC Board constituted
1973		Indian Institute of Management (MI) established
1975		St. John's Medical College
1979		M S Ramaiah Medical College started in Bengaluru
1984		Sri Jayadeva Institute Of Cardiovascular Sciences & Research started in Bengaluru
1985		M S Ramaiah Medical Teaching Hospital started in Bengaluru
1987		M S Ramaiah Institute of Nursing Education & Research started in Bengaluru
		Jindal Hospital Society started in Bengaluru
1991		M S Ramaiah Dental College started in Bengaluru
1992		M S Ramaiah College of Pharmacy and M S Ramaiah Institute of Hotel Management started in Bengaluru
1993		M S Ramaiah Composite Junior College started in Bengaluru
2001		Narayana Hrudayalaya started in Bengaluru
2005		Columbia Asia Hospital's India operations started with the launch of the hospital of the same name in Bengaluru
		INDUSTRY
1888		Binny mills
1912		Indian Tobacco Company (ITC)
1915		United Breweries
1918		Government Soap Factory



Well known landmarks of Bengaluru City

Hindustan Aeronautics Limited

1919	Minerva Mills
1932	Government Porcelean Factory
1937	Air service
1940	Hindustan Aeronautics Bangalore Transport Company Ltd. commences operations with a fleet of 20 buses
1946	Indian Telephone Industries (ITI) Kirloskar Electric Company
1951	Established Bosch Limited, which is India's largest automotive componet manufacture and also one of the largest Indo - German companies in India
1953	Hindustan Machine Tools (HMT)
1954	Bharat Elelctronics Ltd. (BEL)
1957	Bangalore Stock Exchange opened
1962	Bangalore Transport Company Ltd.
	Nationalised as Bangalore Transport Service
1966	Mysore Sales International Ltd.
1981	American Power Conversion Corporation by Schneider Electric
1983	Infosys relocates to Bangalore
1984	Wheel and Axle Plant
1985	Texas Instruments establishes a centre in Bangalore
1987	Motorola started its unit in Bagalore
1989	HP starts its operation in Bangalore
1993	Oracle established its Inidan subsidiary with less than ten people. Shortly afterwards, in 1994, it became the first major US software company to establish an India Development centre in Bangalore to support its product development strategy for global markets.
1996	Registered office of Wipro shifted from Mumbai to Bangalore
1997	IBM Global Services established in Bangalore
2000	GE Global Research and Technology Development Centre opened in Bangalore
2011	Nama Metro inaugurated

Source: Census of India 2001, Department of Census, Government of India.

Table 2.1: Ground water availability in Bengaluru Urban District as on 31/March/2012

Taluks	Anekal	Bengaluru North	Bengaluru South	Bengaluru East	Bengaluru City
Availability in hecto meters	3377	2975	2971	2400	2975

Source: Bengaluru Urban District at a Glance 2011-12

Table 2.2: Total population in Bengaluru Urban District in 2001 and 2011

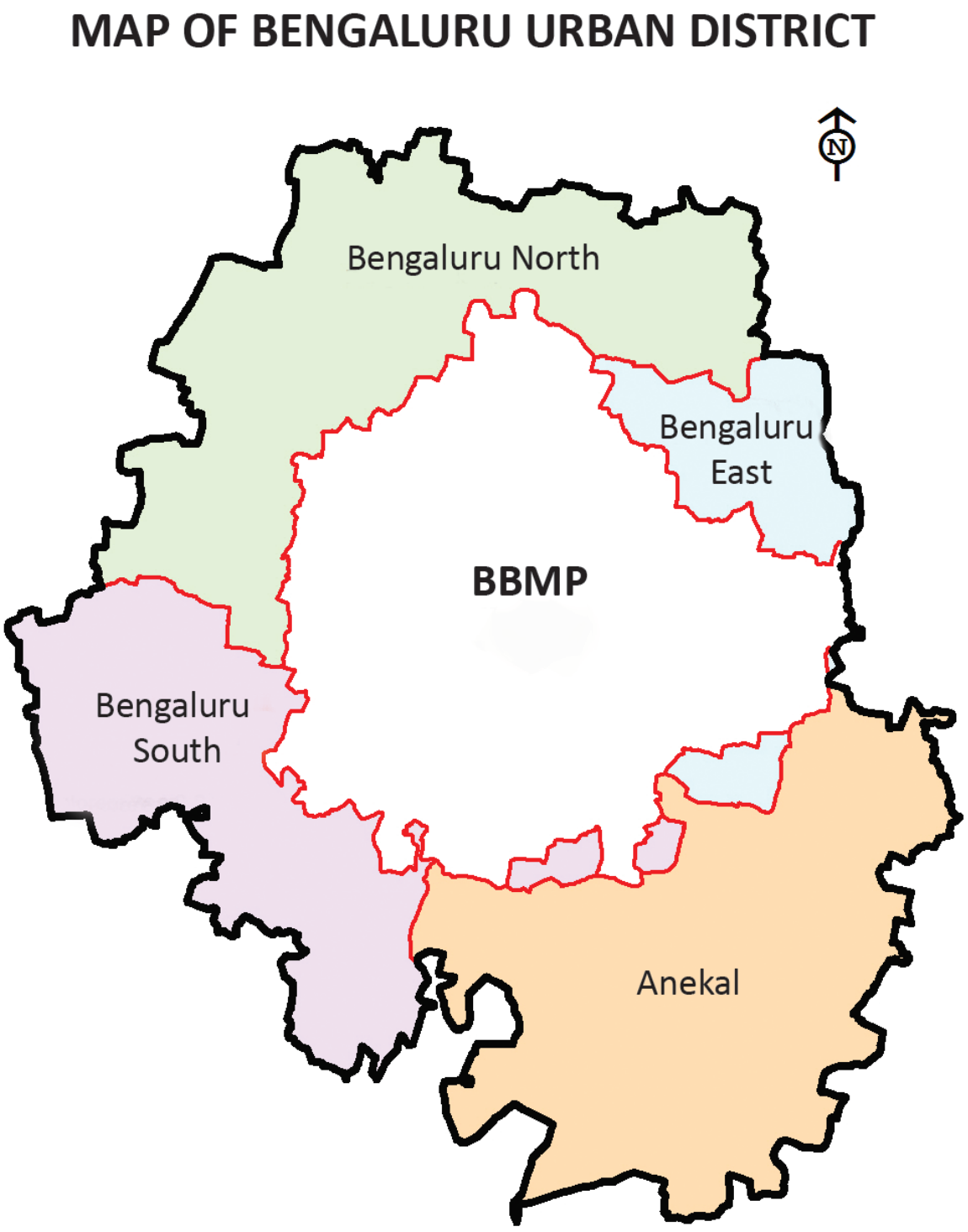
	2001	%	2011	%
Anekal	298580	4.8	517575	5.4
Bengaluru City	5900968	90.5	8443675	87.7
Bengaluru East	--	--	102607	1.1
Bengaluru North	171061	2.6	352420	3.7
Bengaluru South	153287	2.3	205274	2.1
District	6523896	100	9621551	100

Source: Department of Census, Government of India
Note: In this report Bengaluru City implies the administrative limit of BBMP. Hence these two have been used inter changeably.

2.3 Physiographic Divisions of the District

Bengaluru urban district is located on the Decccan Plateau in the south eastern part of Karnataka. The average elevation of the district is around 900 to 1000 metres, which endows it with a salubrious climate. Physiographically the district can be divided into rocky upland, plateau & flat topped hills with its major part sloping towards south and south east forming pediplains interspersed with hills all along the western part. The pediplains form the major part of the district underlain by granites and gneisses. Major part of the pediplain constitute low relief area having matured dissected rolling topography with erosional land slope covered by a layer of red loamy soil of varied thickness. Major part of the pediplains is dissected by streamlets flowing in southern direction. The major drainages for the district are the Cauvery and the Ponnaiyar basins. Major part of the district is drained by Shimsha and Kanva rivers of Cauvery basin which are the Bengaluru North and South taluks. Anekal taluk is drained by South Pennar river of Ponnaiyar basin, which takes its birth from Nandi hills and flows towards South. The soils of the districts can be broadly grouped into red loamy soil and lateritic soil. Red loamy soils generally occur on hilly to undulating land slope on granite and gneissic terrain. It is mainly seen in the eastern and southern parts of Bengaluru north and south taluks Laterite soils occur on undulating terrain forming plain to gently sloping topography of peninsular gneissic region. It is mainly covered in Anekal taluk and western parts of Bengaluru North and South taluks (GOI, 2008).

Map 2.2: Administrative map of Bengaluru Urban district



Source: Bengaluru Urban Zilla Panchayat

2.4 Land, Soil and Natural Resource Endowments

Fertile soil and abundant rainfall are two important advantages of Bengaluru urban district, the only disadvantage is absence of a river close to the district. Further, being on a semi arid plateau the agricultural economy in the ninth century rested on irrigation through artificial lakes. The construction of these tanks necessitated raising artificial bunds that trapped run-off water with small irrigation canals feeding water to fields lying downstream (page 23, Heitzman 2004). With increasing urbanization most of these lakes/tanks have given way to lay outs or apartment complexes.

The annual normal rain fall for the district (average from 1951 to 2000) has been 896 mm with Bengaluru South having received the highest normal rainfall at 977 mm, followed by Anekal at 899 mm, Bengaluru North at 870 mm, and Bengaluru East at 838 mm. Being on a plateau ground water plays an important part in fulfilling the needs of the district for water, the ground water availability as per the Bengaluru Urban District at a Glance for the year 2011-12 is as follows:

As we will see below the population of Bengaluru City is much higher than that of the rural taluks, but the availability of ground water in the City is much lower than that of the taluks. Thus per capita ground water availability for residents of Bengaluru City is very low compared to that for the residents of the rural taluks. Thus making water available to the residents of the City is indeed a major concern for administrators of the City. The total forest area in the district for the year 2011-12 was 122.25 square kilometres. Anekal had the highest forest cover at 2215 hectares followed by Bengaluru South at 1345 hectares, Bengaluru North at 1145 hectares, and Bengaluru East at 350 hectares.

2.5 Demography

As per Census 2011 the total population of Bengaluru Urban District is 96.21 lakhs. Table 2.2 shows the details.

Two points need to be stated, first there was no Bengaluru East taluk in 2001 which can be seen from the table, second, and more importantly there was no Bruhat Bengaluru Mahanagar Palike (BBMP) in 2001. For comparison purposes we have computed the total population of BBMP using Census 2001 figures of the erstwhile city corporation, various city municipal councils and villages, which together form the present Bengaluru City. From 2001 to 2011, population has increased in the district by 47.5% touching almost a crore. It can be seen that Bengaluru City which accounted for 90.5% of the population in 2001 now accounts for 87.7% in 2011. Population of Anekal in 2011 is over 73.3% of that in 2001, this clearly is the spillover effect of the growth of Bengaluru City and the industries on the outskirts of the city. Bengaluru North, South, and East are rural taluks, with the only urban area other than Bengaluru City is the Anekal TMC where 31.9% of the total population of Anekal taluk resides. The population of Anekal TMC was 58,268 in 2001 which increased to 165,150 in 2011 with an astounding rise of 183 per cent.

The opportunities created due to the growth of Bengaluru City and the industries on the outskirts of the City have led to a substantial influx of people into the City. Shashidhar (2003) points out that migration is one of the contributing factors for the increase in the total population of the City from 1.44 lakhs in 1871 to 56.86 lakhs in 2001. The total number of migrants in the City increased from almost 3 lakhs in 1951 to 11 lakhs in 1991. A majority of the migrants into the City till 1991 were from other districts of Karnataka, followed by migrants from the state of Tamil Nadu. Andhra Pradesh, Kerala, and Maharashtra were the other three states from where there was notable migration into the City. The paper also shows that a majority of the migrants in 1991 came into the City for employment purposes. An analysis of the 2001 migrant Census data in the City tells us that a majority of the migrants in 2001 were from other districts of Karnataka. As in 1991, the proportion of migrants from Tamil Nadu into the City was the second highest in 2001. Again in 2001, Andhra Pradesh, Kerala, and Maharashtra were the other three states from where there was notable migration into the City. As in 1991, a majority of the migrants came into the City for employment purposes. The percentage contributions can be seen from table 2.2a below.

Map 2.2 shows the current administrative boundaries of the district, in terms of four taluks of the district and Bengaluru City (BBMP) in the map.

The distribution of males and females in the district is shown in table 2.3.

Table 2.2a Migrants into Bengaluru City in per cent

Place	1951	1961	1971	1981	1991	2001
Total migrants*	100	100	100	100	100	100
From other districts of Karnataka	30.9	45.5	46.3	48.9	54.5	55.3
Tamil Nadu	57.1	33.1	26.2	26.1	21.3	19.7
Andhra Pradesh	0.8	8.6	8.6	8.8	7.6	9.0
Kerala	1.5	5.7	7.6	7.7	6.6	6.6
Maharashtra	1.8	1.4	2.6	2.3	2.0	2.2

Note - * excludes migrants from within the district of Bengaluru
Source: Shashidhar (2003), and Census 2001, Department of Census, Government of India

Table 2.3: Male, Female population and Sex ratio in Bengaluru Urban District

	Males in 2001	Males in 2011	Females in 2001	Females in 2011	Sex ratio in 2001	Sex ratio in 2011
Anekal	158580 (3.9)	282006 (5.6)	140000 (3.8)	235569 (5.1)	883	835
Bengaluru City	3092513 (75.2)	4391723 (87.4)	2808455 (75.6)	4051952 (88.1)	908	923
Bengaluru East	--	53699 (1.1)	--	48908 (1.1)	--	911
Bengaluru North	88295 (10.1)	185978 (3.7)	82766 (9.8)	166442 (3.6)	937	895
Bengaluru South	80262 (10.9)	109255 (2.2)	73025 (10.8)	96019 (2.1)	910	879
District	3419650	5022661	3104246	4598890	908	916

Note: Numbers in parentheses are per cent of individual column totals
Source: Department of Census, Government of India

Sex ratio for the district has increased from 908 to 916; this increase has been primarily driven by the increase in Bengaluru City from 908 to 923. The ratio for Bengaluru North has decreased from 937 in 2001 to 895 in 2011. The drop in the sex ratio in Anekal has been drastic from 883 in 2001 to 835 in 2011, while the drop in Bengaluru South is equally drastic from 910 in 2001 to 879 in 2011. Let us examine if this skewed ratio exists even with respect to children in the age group of 0-6 years.

It can be seen from table 2.4 that the sex ratio in the age group of 0-6 years for the district has marginally increased from 943 in 2001 to 944 in 2011; this is primarily due to the increase of the same in Anekal while that of Bengaluru City has remained the same during this period. Bengaluru South and North have shown a decline with the South experiencing a sharper fall than that in the North.

The proportion of scheduled castes (SC) and scheduled tribes (ST) in 2001 and 2011 can be seen from table 2.5.

Proportion of SC in total population has decreased marginally at the district level due to the fall in Anekal and Bengaluru City. The SC proportion has increased in Bengaluru North and Bengaluru South; this also however could be because of inclusion

Table 2.4: Sex ratio in the age group of 0-6 years in Bengaluru Urban District

	Boys in 2001	Boys in 2011	Girls in 2001	Girls in 2011	Sex ratio in 2001	Sex ratio in 2011
Anekal	19778 (4.1)	29969 (5.5)	18700 (4.1)	28969 (5.7)	945	967
Bengaluru City	355928 (73.8)	471842 (87.1)	335246 (73.8)	444599 (87.0)	942	942
Bengaluru East	--	6599 (1.2)	--	6442 (1.3)	--	976
Bengaluru North	10857 (10.6)	20837 (3.8)	10419 (10.7)	19650 (3.8)	960	943
Bengaluru South	10219 (11.5)	12409 (2.3)	9753 (11.4)	11521 (2.3)	954	928
District	396782	541656	374118	511181	943	944

Note: Numbers in parentheses are per cent of individual column totals
Source: Department of Census, Government of India

Table 2.5: Proportion of Scheduled caste and Scheduled tribe in total population

	SC proportion in 2001 (%)	ST proportion in 2001 (%)	SC proportion in 2011 (%)	ST proportion in 2011 (%)
Anekal	26.5	1.8	21.3	2.7
Bengaluru City	11.7	1.2	11.4	1.8
Bengaluru East	--	--	24.4	2.3
Bengaluru North	14.0	2.2	19.0	3.6
Bengaluru South	15.7	1.4	17.6	3.3
District	12.9	1.4	12.5	2.0

SC- Scheduled Caste, ST- Scheduled Tribe
Source: Department of Census, Government of India

Table 2.6: Sex ratios for SC and ST for the year 2001 and 2011

	2001- SC	2011-SC	2001- ST	2011- ST
Anekal	963	952	903	841
Bengaluru City	953	974	907	925
Bengaluru East	--	983	--	930
Bengaluru North	943	971	906	931
Bengaluru South	959	958	887	904
District	954	972	904	918

Source: Department of Census, Government of India

of developed villages into BBMP while leaving out the backward villages in these taluks. The proportion of ST population has increased in the city as well as all the taluks. This could either be because of higher migration of ST's into cities which is indeed a desirable feature given that cities are the engines of growth, or higher birth rate than rest of the population.

Let us now look the sex ratios in SC and ST's in Bengaluru Urban District. Table 2.6 shows the ratios for the years 2001 and 2011.

Sex ratio for the SC's has shown a healthy increase from 954 in 2001 to 972 in 2011, with increase in Bengaluru North being exceptional from 943 to 971 while that of Bengaluru City has increased from 953 in 2001 to 974 in 2011. Anekal taluk has shown a drop from 963 in 2001 to 952 in 2011, while that of Banaglore South has dipped marginally from 959 to 958. The story with respect to sex ratio of ST's also seems to be similar with the district ratio having increased from 904 in 2001 to 918 in 2011. The ratios in Bengaluru City, North, and South have increased considerably, while there has been a drastic drop for Anekal taluk.

2.6 Literacy

Literacy is a tool that not only empowers the person but also adds value to her/ his life and thus playing a crucial role to her/his development. At the macro level a literate society has a higher capability than a less literate society. The strong correlation between lack of literacy and poverty has been well established. A literate person does not experience

Table 2.7: Literacy rate of Bengaluru Urban District in per cent

	2001	2011
Anekal	70.6	80.7
Bengaluru City	84.3	88.7
Bengaluru East	--	79.4
Bengaluru North	79.8	80.8
Bengaluru South	79.8	78.4
District	82.8	87.7

Source: Department of Census, Government of India

the deprivation of capabilities or lack of economic opportunities experience by somebody who is not literate. Female literacy, in particular, is of vital importance for the future of the nation, as a child's health is crucially linked to the mother's literacy. Table 2.7 shows the literacy rates of Bengaluru Urban District for the years 2001 and 2011.

Literacy for whole district has increased from 82.8 per cent in 2001 to 87.7 per cent in 2011 with Anekal showing the highest increase of 10.1 per cent during the period followed closely by Bengaluru North taluk. Literacy rate in Bengaluru City has increased marginally from 84.3 per cent to 88.7 per cent while that of South taluk has come down marginally from 79.8 per cent to 78.4 per cent. Thus overall literacy rates for Bengaluru Urban District seem up to the mark, however, to understand the scenario better it would be interesting to note the rates in the rural and urban areas of the district. Bengaluru North, South, and East taluks are rural and as can be seen their literacy rates are lower than that of Bengaluru City which is urban. With respect to Anekal, the literacy rate of rural Anekal in 2001 which was 68.3% increased to 78.3% in 2011, while that of urban Anekal which was 79.7% in 2001 increased to 85.6% in 2011. One of explanations for the slow growth in literacy rate of urban Anekal could be the large scale migration that moved into Anekal TMC to take advantage of the numerous opportunities that arose in the region during the decade of 2001-11.

Table 2.8 separates the literacy rate in males and females of Bengaluru Urban District. As expected male literacy rate has been higher than that of females both for the years 2001 and 2011.

Female literacy rate which was 77.2 per cent in 2001 has increased to 84 per cent in 2011, while male literacy rate in the same period has increased from 87.9 per cent to 91 per cent. Thus at the district level female literacy rate is catching up with the male literacy rate. With respect to female literacy rate, Anekal has shown the highest increase from 60.7 per cent in 2001 to 73.8 per cent in 2011, while Bengaluru South has shown a slight decline from 73 per cent to 71.3 per cent. Female literacy rates in Bengaluru City and Bengaluru South have shown an increase during the same period. From 79.2 per cent in 2001 to 86.2 per cent in 2011, the highest increase in the male literacy rate is once again in Anekal.

Table 2.8: Male and Female literacy rates in 2011 and 2011

	2001 Male	2011 Male	2001 Female	2011 Female
Anekal	79.2	86.2	60.7	73.8
Bengaluru City	88.8	91.7	79.3	85.4
Bengaluru East	--	85.7	--	72.3
Bengaluru North	86.4	86.8	72.4	74.0
Bengaluru South	85.8	84.5	73.0	71.3
District	87.9	91.0	77.2	84.0

Source: Department of Census, Government of India

Male literacy rate in Bengaluru North has increased marginally from 86.4 per cent in 2001 to 86.8 per cent while that in the City has slightly increased from 88.8 per cent in 2001 to 91.7 per cent in 2011. As in the case of females, the male literacy rate of Bengaluru South also has shown a slight decline from 85.8 per cent in 2001 to 84.5 per cent in 2011. Thus compared to the urban parts, the rural parts of the district seem to have some way to go with respect to the literacy levels.

2.7 Industry

Industry in Bengaluru Urban district is fairly well spread across sectors, for example, we have engineering industries, aeronautical industries, textile industries, information technology industries, and bio-technology industries. Bengaluru Urban district is the country's leading information technology services exporter, employing nearly 35 per cent of the Information Technology/ Information Technology enabled services workforce of the country.

The district also has the biggest bio technology cluster in India, which as per estimates at around 137 units accounts for almost 40 per cent of the total units in the country. Leading bio technology and pharmaceutical firms in Bengaluru Urban District include Biocon, Astra Zeneca, British Biologicals, Essilor India, Bio-Gen Extracts, Jubiliant Biosys, Millopore India Ltd, Novo Nordisk India, Siemens Hearing Instruments, Himalaya Drug Company, etc.

Bengaluru Urban district also has numerous manufacturing clusters which include

Picture 2.1 A view of an Information Technology company in Bengaluru Urban district



Picture 2.2 A view of a leading biotechnology company in Bengaluru Urban district



Picture 2.3 A typical medium manufacturing unit in Bengaluru Urban district



Picture 2.4: Garment unit in Bengaluru Urban district



Peenya, Whitefield, Bommasandra, Jigani, Attibele, Kadugodi-Sadaramangala etc. Peenya is the largest industrial cluster in Asia with 5000 plus medium, large and small scale industries giving employment to more than five lakh people. Some of the prominent manufacturing companies in Bengaluru Urban District are Bosch, L&T Komatsu, Kirloskar, Escorts, Bharat Heavy Electricals Limited, Bharat Earth Movers Limited, Bharat Electronics Limited, Hindustan Machine Tools, Huwaei Technologies, General Electric, Airbus Engineering Centre, Ace Micromatic Group, etc. Bengaluru Urban district also has many textile units, many of which are small scale industries employing a sizeable number of workers.

Under the textile sector, a sizeable number of units in Bengaluru fall in the readymade garment manufacturing category. Some of the leading textile companies in Bengaluru are, Mafatlal, Arvind Mills, Gokaldas Exports, Shahi Export House, Madura Coats, Adonis Inc etc.

The district is also emerging as the aerospace hub of India, India's only aircraft manufacturer Hindustan Aeronautics Limited is located here and four of its six R&D centres are in located in Bengaluru Urban District. An aerospace special economic zone spreading over 250 acres has been established near Bengaluru International Airport. Other notable aerospace industries located in the district are Defence Research Development Organisation, Indian Space Research Organisation, National Aerospace Laboratory, Antrix Corporation, Aeronautical Development

Agency, Airworks India Engineering, Quest Global, Mahindra Aerospace, Avembsys, International Aerospace Manufacturing Pvt. Ltd, Honeywell Technology solutions etc. The ready availability of quality manpower due to the presence of numerous institutions of higher learning also has helped the district to house several R&D institutions and companies such as General Electric, Philips Innovation campus, Microsoft Research, IBM, Free Scale Semiconductors, Infineon India, Intel India, Nokia, Panasonic, Samsung Electronics, Delta India Electronics, etc. The rural parts of the district are also involved in considerable agricultural production of Paddy, Maize, Rice, Horse gram, oil seeds, Banana, Grapes, Pomegranates, and Papaya; Anekal Taluk is also called as the Ragi bowl of the state.

The district also enjoys a considerable reputation in food processing, companies such as Pepsico India, Britannia, Parle, Wrigleys, United Breweries etc are located in the district. The salubrious weather of the district also has helped the district become a hub for the floriculture industry. In addition the district, which has the distinction of having the largest number of systems of medicine approved by World health Organisation, is also turning out to be a Medical Hub facilitating more than 6000 patients across the world.

Table 2.9 provides further information on the industries in Bengaluru Urban District.

With respect to number of factories, 41 per cent of the units belong to Other industries, followed closely by Engineering units at 40.8 per cent. Readymad3 Garments account for 12.5 per cent units followed by Chemical units at 3.7 per cent and Textile units at 2 per cent. The picture is completely different with respect to the number of employees, it can be seen that Readymade Garment industries account for almost 44.4 per cent followed by Other industries at 25.9 per cent, Engineering industries at 23.7 per cent, Chemical industries at 5.1 per cent, and Textile industries at 0.9 per cent. As expected Readymade Garment industries is the most labour intensive while Engineering is more capital intensive and skill biased. Thus with respect to industrial employment the Readymade Garment industry is the industry that employs the maximum number of labour. Bulk of the employment in Readymade Garments is in Bengaluru North taluk followed by Bengaluru South. Picture 2.1 shows a garment unit in the

Picture 2.5 One of the numerous flyovers in Bengaluru Urban district



Table 2.9: Number of factories and employees in Bengaluru Urban District in 2011-12.

	Readymade garments		Textiles		Chemical		Engineering	
	Factories	Employees	Factories	Employees	Factories	Employees	Factories	Employees
Anekal	32	19467 (5.7)	32	413 (5.9)	72	5635 (14.3)	644	44359 (24.1)
Bengaluru East	2	1300 (0.4)	1	100 (1.4)	12	2434 (6.2)	52	5852 (3.2)
Bengaluru North	448	185036 (53.7)	47	2936 (41.7)	148	17839 (45.2)	1826	93879 (51.1)
Bengaluru South	414	138630 (40.2)	66	3591 (51.0)	33	13583 (34.4)	396	39630 (21.6)
Total	896	344433	146	7040	265	39491	2918	183720

	Others		Total		
	Factories	Employees	Factories	Male Employees	Female Employees
Anekal	247	25578 (12.7)	1027	75593 (16.5)	19859 (6.3)
Bengaluru East	60	5429 (2.7)	127	11648 (2.5)	3467 (1.1)
Bengaluru North	1566	107520 (53.5)	4035	239473 (52.1)	167737 (53.1)
Bengaluru South	1060	62281 (31.0)	1969	132598 (28.9)	125117 (39.6)
Total	2933	200808	7158	459312	316180

Note: Numbers in parentheses are per cent of individual column totals

Source: Bengaluru Urban District at a Glance, 2011-2012

district, most of the units are typical of this unit.

The textile units in Anekal use very less labour compared to those in Bengaluru North, South, and East. Bengaluru South leads the employment in textile units followed by Bengaluru North, while the only factory in Bengaluru East employs 100 people. With respect to Chemical industries though Bengaluru North employs more people than Bengaluru South, the units in Bengaluru South are more labour intensive while those in Anekal seem to be the least labour intensive. Bengaluru North employs the most people in Engineering industries followed by Anekal and Bengaluru South. Among the engineering units, those in Bengaluru South seem to be the most labour intensive followed by those in Bengaluru East. A majority of the people in the Other industries are employed in Bengaluru North followed by Bengaluru South and Anekal taluk.

The gender wise labour force pattern presented in table 2.9 also reveals several interesting points. In Anekal taluk, men account for 79.2 per cent while women account for only 20.8 per cent, a similar pattern is noted in Bengaluru East taluk where men account for 77.1 per cent and women for 22.9 per cent of the labour force. Men in Bengaluru North taluk account for 58.8 per cent while women account for a substantial 41.2 per cent. Among the taluks, Bengaluru South presents the closest picture towards gender equality where women account for 48.5 per cent and men account for 51.5 per cent. One plausible explanation for an equitable distribution in Bengaluru North and South workforce could be the nature of labour intensive industries. Overall, with respect to industries in Bengaluru Urban district men account for 59.2 per cent of the workforce while women account for 40.8 per cent of the workforce.

2.8 Irrigation

Irrigation in Bengaluru Urban district exists only in the rural taluks which would be Bengaluru North, Bengaluru South, Bengaluru East, and Anekal. Among the main sources of irrigation, canals, wells, and lift irrigation are not in use in the district. Thus tanks and tube wells are the main sources of irrigation in the district. Table 2.10 shows the percentage of net irrigated area by tanks and tube wells.

As can be seen from table 2.10 in Anekal taluk tanks account for 16.2 per cent and tube wells account for 83.8 per cent of the net irrigated area, thus farms in Anekal taluk depend on tube wells for their harvest. This also is the case with farms in Bengaluru North taluk where all the farms depend on tube wells. Almost all the farms in Bengaluru South and a majority of farms in Bengaluru East also depend on tube wells for growing their crops. Thus in Bengaluru Urban district only 7.5 per cent of the net irrigated area depends on tanks, while a majority of the area i.e. 92.5 per cent depends on tube wells.

2.9 Infrastructure

Infrastructure such as railways, roads, telephones and power are important for

Table 2.10: Percentage of net irrigated area through tanks and tube wells for 2011-12

	Tanks	Tube wells
Anekal	16.2	83.8
Bengaluru East	7.4	92.6
Bengaluru North	0	100
Bengaluru South	0.8	99.2
Total	7.5	92.5

Source: Bengaluru Urban District at a Glance, 2011-2012

they are a source of positive externalities that help human development. Better the infrastructure more the probability of better development outcomes. As per the Bengaluru Urban district at a glance 2011-2012, the district has in all 148 kilometres (Kms) of railway line, with Anekal (42 Kms), Bengaluru North (43 Kms), Bengaluru South (13 Kms), Bengaluru East (21 Kms), and Bengaluru City (29 Kms). With respect to railway stations, Bengaluru North has 7 stations; Bengaluru City has 2, while Bengaluru South, Bengaluru East, and Anekal have 3 stations each. The district has 147 Kms of national and 91 Kms of state highway passing through it, the lengths of major district roads is around 682 Kms. The total length of panchayat roads in the district is about 2356 Kms. This road figures do not include the roads within Bengaluru City. With respect to Bengaluru City, though the general feeling is of congestion in the road and transport system of the City, the total road length in the City is about 11812 Kms. Bengaluru City is also connected to the rest of the world through an international airport at Devanahalli about 30 Kms from the City, a modern airport that has the capacity to handle about 11 million passengers per annum. With respect to communications, the district as of 2011- 2012 has 261 post offices and 294 telephone exchanges. The number of land line telephone connections amount to 9.23 lakhs.

2.10 Regional Perspectives and Backwardness

Bengaluru Urban district is the largest contributor to the economy of the state of Karnataka. It also ranks first in terms of per capita income and is way above the state average. The district also has a huge inflow of migrating population from other districts of the State and from other parts of the country owing to the opportunities created. The district also has adequate number of educational to fulfill the needs of the population; as a matter of fact, it also serves the higher education needs of students from many parts of the country. Due to the vibrancy of the economic activity in the City, the district is probably among the least backward districts in the state.

2.11 An Overview

Exponential growth of Bengaluru City over the last decade indicates that there are numerous opportunities that exist in the City. Opportunity exists primarily in

the secondary and tertiary sectors of the economy, which also reflects on the skill set of the labour force or the resident population in the district. As mentioned earlier, Bengaluru Urban district is the largest contributor to the economy of the state of Karnataka. It also ranks first in terms of per capita income and is way above the state average. The infrastructure as well as medical facilities available in the City coupled with the literacy rate of the district leads us to the expectation that the human development parameters in the district should be better than most of the other districts in the State. Bengaluru Urban district also has many educational institutes of repute, which once again should help in better human development outcomes. The district is also well connected to all parts of the country by road, rail, and air. The international airport in the City also helps it be connected with rest of the world.



3. Computation of Indices

3.1 Introduction

After an overview of the district it will be appropriate to discuss the human development indices that have been computed as a part of the report. Though it fairly well known, it has to be emphasized that the value of the human development index as well as other indices, for each taluk is relative to each other and is not an absolute number.

3.2 Human Development Index

Human development index (HDI) is a relative measure; we can measure human development of taluks across the state or that of the district across the state. The maximum and minimum in such cases would be the maximum and minimum in the group that has been selected for comparison. Thus if one wants compare human development of taluks within district, all one has to do with take the maximum and minimum values of the taluks and construct the index. If one does this exercise for the taluks and BBMP in Bengaluru Urban district then the results are as shown in table 3.1.

The living standard dimension index is constructed using the average of the Indices first seven indicators under HDI in table 1.1. The health dimension index is constructed using the average of the indices of the next two indicators under HDI. The education dimension index is constructed using the average of the indices of the last two indicators under HDI is table 1.1 HDI is then calculated using the following formula.

$$HDI = [SI_l \times SI_h \times SI_e]^{1/3}$$

SI_l - Sectoral index for living standard
SI_h - Sectoral index for health
SI_l - Sectoral index for education

Before we start it must be made clear that in this report Bengaluru City implies the administrative limits of BBMP. In terms of living standard, Bengaluru City or BBMP has the best index value followed by Bengaluru North, Anekal, East, and South. This is very apparent to people who have travelled across the district, the facilities and the opportunities available in Bengaluru City cannot be matched by the rural taluks. Bengaluru City has the highest percentage of households having access to modern cooking fuel; this is also the case with the percentage of households having pucca

Table 3.1: Human Development and dimensional indices for taluks and BBMP in Bengaluru Urban district

	Living Standard	Health	Education	HDI
Anekal	0.483 (3)	0.254 (5)	0.604 (2)	0.420 (5)
BBMP	0.975 (1)	0.271 (4)	0.603 (3)	0.543 (3)
Bengaluru East	0.419 (4)	0.761 (2)	0.697 (1)	0.606 (1)
Bengaluru North	0.521 (2)	0.396 (3)	0.471 (5)	0.459 (4)
Bengaluru South	0.372 (5)	0.841 (1)	0.553 (4)	0.558 (2)

Note: Numbers in parentheses are ranks
Note: In this report, Bengaluru City implies the administrative limits of BBMP. We use BBMP/Bengaluru City interchangeably.

houses and the share of non agricultural workers. Bengaluru City is also way ahead in the percentage of households having access to toilet. Bengaluru City is also ahead in the percentage of households having access to water. Bengaluru City is also marginally ahead in the percentage of households having access to electricity. These factors help Bengaluru City to have the highest living standard index among the various taluks of Bengaluru Urban district. With respect to the Health index, Bengaluru South fares the best followed by East, North, BBMP, and Anekal. Providing health services to the huge population of Bengaluru City is indeed a very challenging task. In addition many complicated medical cases come to Bengaluru City, from other parts of the State and the country, to access the superior medical facilities it offers, thus it could be possible the low health index is the outcome of these possibilities. This is not to say that with respect to provision of health services in Bengaluru City there is no room for improvement. The two parameters to measure health index are Child Mortality Rate and Maternal Mortality Rate. For Child Mortality rate Bengaluru North has the least value followed closely by Bengaluru East. For Maternal Mortality rate Bengaluru South has the least value.

Bengaluru East turns out to have the best education index followed by Anekal and BBMP. Bengaluru South is ranked fourth in the education index while Bengaluru North is the distant last. As expected Bengaluru City has the highest literacy rate in the district, Bengaluru East has the highest gross enrolment ratio in the district and thus this reflects in its education index.

The composite index which is the HDI tells us that Bengaluru East leads the way followed by Bengaluru South, BBMP, Bengaluru North, and Anekal. The general perception in the district of Anekal being a backward taluk is confirmed by the index, it is clear that there is some amount of work to done in Anekal taluk. Surprisingly BBMP is ranked third in the district; the reasons for which are not easy to fathom and can be due to numerous factors, one of which could be measurement errors.

3.3 Gender Inequality Index

As with the human development index, the gender inequality index has also been constructed only for the 4 taluks and BBMP in Bengaluru Urban district. Table 3.2 shows the index for the taluks of Bengaluru Urban district.

There are three dimensions in GII. Health indicators, the first three indicators under GII in table 1.1 measure the health dimension. Empowerment dimension which is measured by the next six indicators under GII in table 1.1. Labour market dimension, which is measured by the last six indicators under GII in table 1.1. The health dimension index for male is assumed to be one, the female health dimensional index is the geometric mean of the first three indicators under GII in tbale 1.1. Similar computations are done for empowerment dimension index and labour market dimension index for females and males.

$$1)\ GF = \sqrt[3]{\left[\frac{1}{MMR} \times ID \times AHE\right]^{1/3} \times \left[PR_F \times CHLD_F \times LIT_F\right]^{1/3} \times \left[WPR_F \times NAG_F \times WAGE_F\right]^{1/3}}$$

This is for females

$$GM = \sqrt[3]{\left[1 \times \left[PR_M \times CHLD_M \times LIT_M\right]^{1/3} \times \left[WPR_M \times WAG_M \times WAGE_M\right]^{1/3}}$$

This is for males

where,
- MMR - Materal mortality rate
- ID - Share of institutional deliveries
- ANE - Share of pregnant women with Anemia
- PR - Share of elected representatives in PRIs and ULBs
- CHLD - Share of male or female children in the age group 0-6 years
- LIT - Literacy rate
- WPR - Work participation rate
- NAG - Share of workers in non-agricultural sector to total workers
- WAGE - Agricultural wage rate

$$2)\ \text{Then} - HARM\left[G_F, G_M\right] = \left[\frac{(G_F)^{-1} + (G_M)^{-1}}{2}\right]^{-1}$$

$$3)\ G_{F,M} = \sqrt[3]{\overline{health} \cdot \overline{empowerment} \cdot \overline{LFPR}}$$

$$\text{Where, } \overline{health} = \left[\frac{\left[\frac{1}{MMR} \times ID \times ANE\right]^{1/3} + 1}{2}\right]$$

$$\overline{Empow} = \frac{\left[PR_F \times CHLD_F \times LIT_F\right]^{1/3} + \left[PR_M \times CHLD_M \times LIT_M\right]^{1/3}}{2}$$

$$\overline{LFPR} = \frac{\left[WPR_F \times WAG_F \times WAGE_F\right]^{1/3} + \left[WPR_M \times WAG_M \times WAGE_M\right]^{1/3}}{2}$$

$$4)\ GII = 1 - \frac{\left[HARM\left[G_F, G_M\right]\right.}{G_{F,M}}$$

Lower the index lower in the inequality, thus we can see from the table that Bengaluru South is the most gender friendly taluk followed by Bengaluru East. Anekal is more gender friendly than BBMP; Bengaluru North, however, seems to be the least gender friendly place in Bengaluru Urban district. Keeping in mind the population of BBMP and the huge spread of the City, it is clear that BBMP is not doing very badly compared to the rural taluks of the district.

Table 3.2: Gender Inequality Index for taluks and BBMP in Bengaluru Urban district

	Gender Inequality Index
Anekal	0.045
BBMP	0.062
Bengaluru East	0.037
Bengaluru North	0.095
Bengaluru South	0.024

Table 3.3: Child Development indexfor taluks and BBMP in Bengaluru Urban district

	Child Development Index
Anekal	0.738
BBMP	0.251
Bengaluru East	0.627
Bengaluru North	0.707
Bengaluru South	0.795

3.4 Child Development Index

Table 3.3 shows the child development index computed for BBMP and the taluks of Bengaluru Urban district. Needless to say, this index has been constructed using only BBMP and the four taluks of Bengaluru Urban district.

This index is a simple average of the indices of the four indicators under CDI in table 1-1. An index value is calculated as

$$\text{Index value} = \frac{\text{Max value - Actual value}}{\text{Max value - Min value}}$$

This computation is for indicators that are negative in nature. The computation for indicators that positive in nature is as below.

$$\text{Index value} = \frac{\text{Actual value - Min value}}{\text{Max value - Min value}}$$

A higher value indicates a higher potential. Once again Bengaluru South has the best child development index in the district followed by Anekal. Bengaluru North does better than Bengaluru East while BBMP fares the worst as per the computed child development index.

The district has a long way to go in improving the environment in the district, especially those related to educational dimension, so that actual development outcome of the children is close to their development potential. The district authorities need to focus on children specific development programmes.

3.5 Food Security Index

BBMP or Bengaluru City being an urban area has very little agricultural activities, hence we compute food security index only for the four rural taluks of Bengaluru Urban district. Table 3.4 shows the computed food security index and its dimensional indices only for the four rural taluks of Bengaluru Urban district.

This index is a simple average of three dimensional indices - Availability, Accessibility and Absorption. Each of these

Table 3.4: Food security and dimensional indices for taluks in Bengaluru Urban district

	Availability	Accessibility	Absorption	Food Security Index
Anekal	0.424	0.48	0.668	0.541
Bengaluru East	0.726	0.697	0.326	0.583
Bengaluru North	0.367	0.56	0.776	0.568
Bengaluru South	0.501	0.42	0.657	0.526

dimensional indices will be an average of the indices of their individual indicators. The first seven indicators under FSI in table 1.1 are those for the Availability dimension. The last five indicators under FSI in table 1.1 are those for the absorption dimension, Remaining indicators under FSI are for the Accessibility dimension.

Since indicators used to compute the Availability dimensional index are based on agriculture this index cannot be computed for BBMP. Similarly with respect to the indicators for computing the Accessibility dimensional index it can be seen that there is an indicator on size of holdings, data on which may not exist for BBMP. Two more indicators, one on agricultural labourers and one on villages may not exist for BBMP. The only dimensional index that may be calculated BBMP is the absorption index. However after consultation with experts it was concluded that computing only the absorption index for BBMP may not be very useful for comparison with rural taluks, and hence this was not computed for BBMP.

Bengaluru East has the highest availability index followed by Bengaluru South, Anekal, and Bengaluru North. With respect to the accessibility index, once again, Bengaluru East has the highest index followed by Bengaluru North, Anekal, and Bengaluru South. Bengaluru North leads the absorption index followed by Bengaluru South, Anekal, and Bengaluru East. Finally, if one looks at the overall food security index, it can be seen that not much separates the four rural taluks. Bengaluru East leads the food security index followed closely by Bengaluru North, Anekal, and Bengaluru South.

3.6 Urban Development Index

As mentioned earlier there are two urban centres in Bengaluru urban district: Bengaluru City/BBMP and Anekal TMC. Table 3.5 shows the urban development index computed for these two urban centres. The computation details can be found below. It must be mentioned that data on percentage of households without own houses was not available for Anekal TMC, as a result, the index reported has been computed without this indicator i.e. percentage of households without own houses.

Table 3.5: Urban Development Index in Bengaluru Urban district

Urban local body	Urban Development Index
Anekal TMC	0.5
BBMP Corporation	0.5

This index is a simple average of the individual indices for all the indicates under UDI in table 1.1. An index value for a positive indicator in computed as below

An index value for a positive indicator in computed as below

$$\text{Index value} = \frac{\text{Actual value - Min value}}{\text{Max value - Min value}}$$

An index value for a negative indicator in computed as below

$$\text{Index value} = \frac{\text{Max value - Actual value}}{\text{Max value - Min value}}$$

Surprisingly both the urban centres have the same urban development index this could be because of the fact that we are looking for maxima and minima among two urban two local bodies in Bengaluru Urban district. Thus this computation need to done at the level of all taluks in the district.

BBMP is a City corporation while Anekal is a town municipal council, thus it would be appropriate to look at the index values for similar ULB's across the state which at this point of time is unavailable for analysis.

3.7 Composite Taluk Development Index

Composite Taluk Development Index (CTDI) is a measure based on 68 indicators, which have been mentioned in the first chapter of the report. Given the nature of Bengaluru Urban district and the fact that leaving BBMP, only Anekal taluk has an urban area, it is difficult to find values for all the indicators for the four taluks and BBMP. Moreover, since we are computing the index only within the district, for a fair comparison we have computed the index using only those indicators the values of which are available for all the taluks in the district as well as BBMP. Table 3.6 shows the CTDI and the dimensional indices for Bengaluru Urban District.

The CTDI is a simple average of the individual indices of all the indicates listed in table 1.2, since we have already

Table 3.6: Composite Taluk Development Index and dimensional indices for Bengaluru Urban district

	Standard of Living	Health	Education	CTDI
Anekal	0.434	0.605	0.588	0.542
BBMP	0.555	0.451	0.369	0.458
Bengaluru East	0.537	0.653	0.580	0.590
Bengaluru North	0.502	0.611	0.204	0.439
Bengaluru South	0.421	0.634	0.716	0.590

Note: The following indicators have not been included in the computation of CTDI - Percentage of Slum Population in the taluk to Total population in the taluk; Cropping Intensity; Irrigation Intensity; Percentage of Households provided employment to total number of households registered under MGNREGS; Percentage of Site less Households; Percentage of Households provided with house sites; Percentage of Houses constructed for houseless poor families; Percentage of women elected representatives in rural local bodies; Percentage of elected SC/ST representatives in rural local bodies; Percentage of women elected representatives in urban local bodies; Percentage of elected SC/ST representatives in urban local bodies; Percentage of active SHGs; Average Population served by sub-centres; Percentage of villages having Anganwadis within a km. distance; Percentage of Gram Panchayats Selected for Nirmal Gram Puraskar Awards to Total number of Gram Panchayats Per capita Education Expenditure; and Percentage of villages having a Primary School within 1 km. distance.

mentioned the details of computation for an index value of a negative indicator, as well as a positive indicators, we do no repeat it here.

It can be seen that BBMP leads in the standard of living dimensional index followed by Bengaluru East. Bengaluru North, Anekal, and Bengaluru South in that order follow Bengaluru East in the standard of living dimensional index. With respect to the dimensional health index, Bengaluru East is ahead followed closely by Bengaluru South, Bengaluru North, and Anekal. BBMP is a distant last with respect to the dimensional health index, as mentioned earlier, providing health services to the huge population of Bengaluru City is indeed a very challenging task. In addition many complicated medical cases come to Bengaluru City, from other parts of the State and the country, to access the superior medical facilities it offers, thus it could be possible the low health index is the outcome of these possibilities. Bengaluru South leads the education dimensional index followed by a distant Anekal and Bengaluru East. The value of the education dimensional index for BBMP is a just a bit higher than half of the value of Bengaluru South, while that of Anekal is further lower. Thus Anekal and BBMP, with respect to the education dimensional index, have a lot of catching up to do with the other taluks of the district. Bengaluru South and Bengaluru East as per the CTDI measure are at the same level, Anekal is not very far behind on this score. Comparatively, BBMP and Bengaluru North are bit lower on this score and need to improve.

3.8 Concluding Remarks

In this chapter, we have computed HDI, GII, CDI, FSI, UDI, and CTDI for BBMP and the taluks of Bengaluru Urban district. The indices clearly indicated that compared to the taluks, Bengaluru City/ BBMP has a lot of work to do especially in the field of education and health. This is important because we have already seen that Bengaluru City is home to more than 8 million people, thus the human development potential of a large population needs to be supported by implementing policies that improve the education and health services given to the inhabitants of Bengaluru City. There is also a need to make Bengaluru City more gender friendly. Similarly, the computed child development index shows that there is a lot of work to do in the City. Policies' benefitting women and child is another area where the policy makers and administrators of the City need to concentrate. Standard of living is the only area where the City scores better than the rural taluks.

The take home points when one compares Bengaluru Urban district with other districts in the state is that in human development and composite district development, the district is doing better than others; while the district needs to work on parameters that relate to reducing gender inequality, improving child development, providing food security, and improving the urban services provided in Anekal town. The value of indices for the taluks in the district is uneven with Anekal taluk requiring more attention than other taluks in the district.

4 Literacy and Education









4.1 Introduction

Research has time and again emphasized that the influence of education is widespread and education has a positive impact on all types of human development outcomes. It has been observed that educated parents provide better nutrition and healthcare for their children as well as themselves. Education not only makes one skilled with respect to the labour force but also improves confidence, self esteem, and enhances social status. Educated women are more independent than uneducated women, and as mothers are vocal about the need for education for their children. Literacy is one of the fundamental parameters of educational attainment as it opens the channel for further learning and training in their formative years. Literacy rate is one of the important indicators of the development of a population, with the educational level seen as determinant of its quality of life.

4.2 Literacy Profile of District

We have already discussed earlier that literacy is a tool that not only empowers the person but also adds value to her/his life and thus playing a crucial role to her/his development. At the macro level a literate society has a higher capability than a less literate society. The strong correlation between lack of literacy and poverty has been well established. A literate person does not experience the deprivation of capabilities or lack of economic opportunities experience by somebody who is not literate. Female literacy, in particular, is of vital importance for the future of the nation, as a child's health is crucially linked to the mother's literacy. An understanding of the capability of the human capital of the district can be initiated by profiling the literacy profile of the district. This profiling will also be useful later when we analyze the work occupation and living standards prevailing in the district. Table 4.1 shows the literacy rates of Bengaluru Urban District for the years 2001 and 2011.

Literacy for whole district has increased from 82.8 per cent in 2001 to 87.7 per cent in 2011 with Anekal showing the highest increase of 10.1 per cent during the period followed closely by Bengaluru North taluk. Anekal, the lagging taluk in 2001, seems to have caught up with the other taluks in the district. Literacy rate in Bengaluru City has increased marginally from 84.3 per cent to 88.7 per cent while that of South taluk has come down marginally from 79.8 per cent to 78.4 per cent. Thus overall literacy rates for Bengaluru Urban District seem up to the mark, however, to understand the scenario better it would be interesting to note the rates in the rural and urban areas of the district. Bengaluru North, South, and East taluks are rural and as can be seen their literacy rates are lower than that of Bengaluru City which is urban. With respect to Anekal, the literacy rate of rural Anekal in 2001 which was 68.3% increased to 78.3% in 2011, while that of urban Anekal which was 79.7% in 2001 increased to 85.6% in 2011. Thus the improvement in literacy rate of urban Anekal was lesser than that of rural Anekal. Higher literacy rate increases the potential for better human development outcome, thus Bengaluru Urban district has the potential to show above average human development indices.

Table 4.1: Literacy rate of Bengaluru Urban District in per cent

	2001	2011
Anekal	70.6	80.7
Bengaluru City	84.3	88.7
Bengaluru East	--	79.4
Bengaluru North	79.8	80.8
Bengaluru South	79.8	78.4
District	82.8	87.7

Source: Department of Census, Government of India

Note: Bengaluru City implies the administrative links of BBMP. Hence we use Bengaluru City/BBMP interchangeably.

Table 4.2: Male and Female literacy rates in 2001 and 2011

	2001 Male	2011 Male	2001 Female	2011 Female
Anekal	79.2	86.2	60.7	73.8
Bengaluru City	88.8	91.7	79.3	85.4
Bengaluru East	--	85.7	--	72.3
Bengaluru North	86.4	86.8	72.4	74.0
Bengaluru South	85.8	84.5	73.0	71.3
District	87.9	91.0	77.2	84.0

Source: Department of Census, Government of India

Table 4.2 separates the literacy rate in males and females of Bengaluru Urban District. As expected male literacy rate has been higher than that of females both for the years 2001 and 2011.

Female literacy rate which was 77.2 per cent in 2001 has increased to 84 per cent in 2011, while male literacy rate in the same period has increased from 87.9 per cent to 91 per cent. Thus at the district level female literacy rate is catching up with the male literacy rate. With respect to female literacy rate, Anekal has shown the highest increase from 60.7 per cent in 2001 to 73.8 per cent in 2011, while Bengaluru South has shown a slight decline from 73 per cent to 71.3 per cent. Female literacy rates in Bengaluru City and Bengaluru South have shown an increase during the same period. From 79.2 per cent in 2001 to 86.2 per cent in 2011, the highest increase in the male literacy rate is once again in Anekal. Male literacy rate in Bengaluru North has increased marginally from 86.4 per cent in 2001 to 86.8 per cent while that in the City has slightly increased from 88.8 per cent in 2001 to 91.7 per cent in 2011. As in the case of females, the male literacy rate of Bengaluru South also has shown a slight decline from 85.8 per cent in 2001 to 84.5 per cent in 2011. Thus compared to the urban parts, the rural parts of the district seem to have some way to go with respect to the literacy levels.

Table 4.3: Literacy rates for 198 Wards in Bengaluru City in per cent as per Census 2011

	Minimum	Maximum	Average
Female	71.1	94.2	85.4
Male	77.1	97.2	91.7
Population	75.6	95.4	88.7

Source: Department of Census, Government of India

As mentioned earlier Bengaluru Urban district is a pre-dominantly urban district thus it would be useful to highlight `the literacy trends in the wards of Bengaluru City. Since the present day BBMP came into existence only around 2007, it would not be possible to compare the performance of the ward across two census periods. Table 4.3 shows the literacy status across the 198 wards in Bengaluru City computed from Census 2011.

At 75.6 per cent the minimum literacy rate in the wards of Bengaluru City is lower than that of Bengaluru South, which has the lowest value among all the taluks in the district. The maximum of 95.4 per cent is unmatched across the taluks in the district. The average literacy rate among the wards of Bengaluru City is 88.7 per cent, there are 76 wards in the City that have a rate lower than the average rate, while 118 wards in the City have a literacy rate that is higher than the average rate. Similarly, at 77.1 per cent the minimum male literacy among the wards of the City is probably among the lowest in the district, while at 97.2 per cent the maximum male literacy rate is the probably highest in the district. The average male literacy rate among the wards of Bengaluru City is 91.7 per cent, there are 75 wards in the City that have lower male literacy rate than the average, while the number of wards in the City that have an higher male literacy rate is 121. Finally, the minimum female literacy rate of 71.1 per cent is once again probably among the lowest in the district. The average female literacy rate among the wards of Bengaluru City is 85.4 per cent; there are 87 wards in the City that have a lower female literacy rate than the average rate, while there are 110 wards in the City that have a higher female literacy rate than the average rate. The maximum female literacy rate among the wards of Bengaluru City is 94.2 per cent which probably may be among the highest in the district.

4.3 Enrolment

Bengaluru Urban district is a tricky district to analyse, this is because though the district has four taluks and BBMP, with respect to education there is Bengaluru North division and Bengaluru South division. Thus mapping these two blocks to the four taluks and BBMP itself is a task that requires an effort that is not insignificant. Wherever possible we have tried to give the picture in terms of four taluks and BBMP, and for other parameters we have analysed the district in terms of the existing blocks and their sub-blocks. Bengaluru North division has four blocks North 1, North 2, North 3, and North 4; while Bengaluru South has five blocks South 1, South 2, South 3, South 4, and Anekal.

Table 4.4: Schools in Bengaluru Urban District in 2012-13

Management	N 1	N 2	N 3	N 4	Anekal	S 1	S 2	S 3	S 4	Total	Share
Central Government	1	4	-	2	-	-	-	4	3	14	0.3
Department of Education	137	65	88	269	279	243	86	140	218	1525	30.3
Local body	3	8	12	1	-	3	10	11	-	48	1.0
Private Aided	103	82	102	24	23	94	128	80	34	670	13.3
Private Unaided	379	189	310	265	159	422	226	455	348	2753	54.7
Tribal/Social Welfare Department	-	-	1	2	3	-	1	-	1	8	0.2
Others	1	-	4	1	-	-	3	6	1	16	0.3
Total no. of schools	624	348	517	564	464	762	454	696	605	5034	100

N- North, S- South, Share is in per cent.

Source: Sarva Shikshana Abhiyan, Karnataka, 2012-13.

Table 4.4a: Schools in Bengaluru Urban District in 2011-12

Management	N1	N2	N3	N4	Anekal	S1	S2	S3	S4	Total	Share
Central Government	0	0	5	1	0	0	5	6	3	20	0.4
Department of Education	137	66	88	274	282	244	88	139	218	1536	31.9
Local body	3	7	12	1	0	3	10	11	0	47	1.0
Private Aided	105	82	101	23	23	92	128	83	31	668	13.9
Private Unaided	342	182	279	234	141	407	225	404	304	2518	52.3
Tribal/Social Welfare Department	0	0	1	2	4	0	1	0	2	10	0.2
Others	1	4	0	2	0	0	0	2	2	11	0.2
Total no. of schools	587	337	486	535	450	746	457	643	558	4799	100

N- North, S- South, Share is in per cent.

Source: Deputy Director Office Primary Instruction (DDPI), Bengaluru South.

Picture 4.1 A government school in Bengaluru Urban district



Photo Courtesy: Deputy Director Office Primary Instruction (DDPI), Bengaluru South.

Picture 4.2 A private school in Bengaluru Urban district



Table 4.5: Enrolment in schools for class 1 to 12 for the year 2012-13

Management	N 1	N 2	N 3	N 4	Anekal	S 1	S 2	S 3	S 4	Total	Share
Central Government	4655	4796	0	1446	0	0	0	1211	5072	17180	1.2
Department of Education	25739	8896	15042	33851	23614	28125	14093	24780	32344	206484	14.5
Local body	373	870	4565	230	0	187	2390	1757	0	10372	0.7
Private Aided	23635	21695	28826	7185	8214	24115	26931	31276	11722	183599	12.9
Private Unaided	142988	73980	110517	92084	47533	146822	91194	164511	132474	1002103	70.2
Tribal/Social Welfare Department	302	0	60	576	331	632	218	0	66	2185	0.2
Others	25	0	2018	59	0	0	1536	2332	28	5998	0.4
Total enrolment	197717	110237	161028	135431	79692	199881	136362	225867	181706	1427921	100

N- North, S- South, Share is in per cent.

Source: Sarva Shikshana Abhiyan, Karnataka, 2012-13.

Table 4.5a: Enrolment in schools for class 1 to 12 for the year 2011-12

Management	N 1	N 2	N 3	N 4	Anekal	S 1	S 2	S 3	S 4	Total	Share
Central Government	0	0	1231	128	0	0	1611	2657	773	6400	0.6
Department of Education	21552	7916	14737	29536	22193	26353	13676	23224	30201	189388	17.3
Local body	299	412	3345	233	0	57	899	1310	0	6555	0.6
Private Aided	21406	17671	24071	3557	4412	17248	22581	20576	7537	139059	12.7
Private Unaided	106155	57396	79917	64900	37147	112546	71937	121681	94543	746222	68.0
Tribal/Social Welfare Department	0	0	219	434	237	0	136	0	126	1152	0.1
Others	1577	3135	0	298	0	0	0	2112	1960	9082	0.8
Total enrolment	150989	86530	123520	99086	63989	156204	110840	171560	135140	1097858	100

N- North, S- South, Share is in per cent.

Source: Deputy Director Office Primary Instruction (DDPI), Bengaluru South.

Before understanding the enrolment in schools, an important parameter that needs to be discussed is the number of schools in district. Table 4.4 shows the number of schools in the various blocks in the district.

Private unaided schools top the share of schools at 54.7 per cent in the district, which implies that more than half of the schools in the district are private unaided schools. The share of the number of schools managed by the Department of Education is 30.3 per cent of the total number of schools in district. The third in this list is private aided schools at 13.3 per cent. Thus private schools among themselves account for 68 per cent of the schools in Bengaluru urban district giving an impression that school education in the district is dominated by the private sector. It is interesting to note that in Anekal block, a taluk considered as the most backward in the district, the number of schools managed by Department of Education far exceeds the number private schools. Given the image of Bengaluru as an Information Technology and Biotechnology City and assuming that private unaided schools offer better quality education, the dominance of private schools in Bengaluru City seems understandable.

In Bengaluru North division, at 624 North 1 has the highest number of schools followed by North 4 which has 564 schools followed by North 3 at 517 schools and North 2 at 348 schools. With respect to South division, at 762 South 1 has the highest number of schools followed by South 3 at 696 schools. South 4 has 605 schools followed by Anekal at 464 schools, and South 2 at 454 schools. Table 4.4 discussed the situation in 2012-13; the situation in 2011-12 can be seen from table 4.4a. It can be seen that the broad patterns remain the same, the share of private schools has increased from 2011-12 to 2012-13. The number of Central Government and Department of Education schools have dropped from 2011-12 to 2012-13. Enrolment for class 1 to 12 for the year 2012-13 can be seen from table 4.5.

Table 4.5 informs us that private unaided schools account for 70.2 per cent of the

Preference for English medium private schools

The proximity to the information technology parks has made many residents of the district of the immense possibilities English education offers. Observers in the field point out that many families prefer sending their children to newly opened English medium private schools in their neighborhood. Since private schools are opening at many places in the district at a rapid pace, these families have been able to manage the relatively high fees charged by shifting their wards to newer schools. Many residents in the district are also taking benefit of the Right to Education Act to get their wards admitted to international schools in the district.

enrolment in the district which is much more than their share in the number of schools. This clearly hints that compared to other category of schools, private unaided schools have more average number of students in each class. Enrolment in Anekal, which has higher number of Department of Education schools than private unaided schools, is higher in private unaided schools than that in Department of Education schools, this clearly supports our argument. The share of private aided schools at 12.9 per cent is slightly lesser than their share in the number of schools. Department of Education schools accounted for only 14.5 per cent of the enrolment in the district compared to their share of 30.3 per cent in the number of schools. The situation in 2011-12 can be seen from table 4.5a, which broadly after accounting for growth in 2012-13 seems to be on the same terms as that in 2012-13. Thus our analysis for 2012-13 holds good when one considers 2011-12.

At 59.6 per cent, enrolment in private unaided schools in Anekal is the lowest for private unaided schools across the district, while at 29.6 per cent enrolment in Department of Education schools in Anekal is highest for Department of Education schools across the district. At 73.5 per cent enrolment in private unaided schools is highest in South 1 block of the district. The reason for the dominance of private unaided schools than other schools both in enrolment as well as number of schools needs a separate analysis.

The average enrolment per school for the year 2012-13 for the district turns out to be 284, with the enrolment per school in Central government schools being the highest at 1227. It is apparent that there is demand for central government in the areas where they are located. At 375, enrolment per school is second highest in Other schools, while that of private unaided schools is the third highest at 364. Enrolment per school for private aided schools is 274 while that for tribal/social welfare department schools is 273. Local body schools have an enrolment per school of 216 while at 135 the enrolment per school is the least in the district for Department of Education schools. Since Central government schools are located in very few centres in the district, people generally opt for private unaided schools. The enrolment numbers also suggest that Department of Education schools though numerous across the district are generally not the preferred option for enrolment in the district.

Gross enrolment ratio and Net enrolment ratio

The two most important indicators of enrolment are gross enrolment ratio (GER) and net enrolment ratio (NER). GER is defined as the ratio of students enrolled in a particular level of education (regardless of age) to the population of official school age for that level of education. Since both the over-aged and under-aged population for a specific level of education are included in the calculation of GER, its value can exceed 100. NER on the other hand is the ratio of students belonging to the official age of enrolment (as required for a particular level of education) who are enrolled to the population of official school age for that level of education. Thus the difference between GER and NER is that, NER excludes enrolled children who fall outside the official age range (as specified for

a certain level of education), while they are included in the calculation of GER. However for Bengaluru Urban, as per education officials, even NER can be greater than 100 as children from neighbouring districts as well as children of migrants get enrolled in schools within the district.

Table 4.6 shows the GER for primary and upper primary schools in the district, for the years 2011-12 and 2012-13.

As per the statistics shown in table 4.6, all the blocks in district have healthy GERs in the primary and upper primary schools. In many of the blocks it can be seen that GER for girls is better than that for boys, indicating a change in society. The role of the government and its policies in encouraging the society to send the girl child to school should be applauded, as it seems to have borne fruits. The numbers in the table are the computations of the DDPI, Bengaluru North block.

Table 4.7 shows the NER for the primary and upper primary schools in the district, for the years 2010-11 and 2011-12 for primary, and 2011-12 and 2012-13 for upper primary schools. It can be seen from the table that several of the NERs are greater than 100, which theoretically is not possible. However, as mentioned earlier, as per education officials, NER for Bengaluru Urban district can be greater than 100 as children from neighbouring districts as well as children of migrants get enrolled in schools within the district. The numbers in the table are the computations of the DDPI, Bengaluru North block.

North 4 and South 2 are the two blocks where NER for primary schools in 2010-11 has been lesser than 100. North 4 seems to have improved its performance above 100 in 2011-12, while South 2 had some more work to do with respect to NER for boys in 2011-12. In upper primary, NER for 2012-13 has dropped for all the

Table 4.6: GER for primary and upper primary schools in the district, in per cent

	Primary 2011-12		Primary 2012-13		Upper primary 2011-12		Upper primary 2012-13	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Anekal	117.1	118.0	124.0	124.9	106.0	102.7	110.4	108.4
North 1	140.2	144.5	150.3	152.3	138.0	140.1	144.6	144.8
North 2	116.5	113.5	112.4	112.9	98.9	107.3	100.4	110.1
North 3	127.2	133.9	128.5	135.7	129.3	136.1	128.0	135.3
North 4	111.2	112.5	129.1	131.5	98.7	101.8	109.0	108.5
South 1	138.4	142.1	147.7	149.9	136.8	137.1	141.9	135.1
South 2	108.4	115.7	109.9	117.5	107.2	119.7	109.7	118.0
South 3	120.9	130.4	135.1	140.9	119.0	117.0	125.1	123.6
South 4	126.4	127.1	145.1	148.2	113.8	112.5	120.0	113.9

Source: Deputy Director Office Primary Instruction (DDPI), Bengaluru North.

Table 4.7: NER for primary and upper primary schools in the district, in per cent

	Primary 2010-11		Primary 2011-12		Upper primary 2011-12		Upper primary 2012-13	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Anekal	101.6	101.7	108.2	108.9	90.8	87.6	82.0	78.1
North 1	130.3	134.9	136.7	140.9	133.0	134.4	104.7	103.4
North 2	103.4	100.2	108.4	105.5	88.9	96.0	75.9	85.6
North 3	127.0	132.0	122.7	127.3	118.8	121.5	86.0	81.7
North 4	96.2	97.5	102.3	102.9	86.0	88.6	70.1	69.7
South 1	120.6	124.9	133.0	136.4	123.5	124.0	109.4	102.6
South 2	97.0	100.4	98.3	103.5	90.9	102.4	82.7	87.3
South 3	116.0	126.6	97.7	105.1	83.8	81.8	86.3	82.8
South 4	114.3	110.3	118.4	119.8	102.2	102.0	90.8	83.8

Source: DDPI, Bengaluru North.

blocks compared to their 2011-12, with only 2 blocks having NER greater than 100 in 2012-13. One reason for the drop in NER could be the errors that creep in while projecting population for different age groups. Bengaluru City being a hub of economic activity, the projected population may have been lesser/more than that which was released by Census 2011in 2012-13. It would be unwise to speculate the reasons behind the fall, as they are indeed the subject of a separate study.

Table 4.8 shows the GER in secondary schools of Bengaluru Urban district. The GER in Bengaluru North block is above 100. The GER in Bengaluru South has a quite a bit of variation, GER in rural areas lags behind that of urban areas. Barring South-4 and Anekal, GER for SC's and ST's in other South blocks need to improve when compared with the GER for OBC's.

Table 4.8: GER for secondary schools in the district for the year 2011-12, in per cent

	Rural		Urban		SC		ST		OBCM	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Anekal	98	86	99	86	98	86	97	89	98	84
North 1	103	102	104	103	101	101	101	101	102	101
North 2	--	--	102	101	100	101	101	100	102	101
North 3	--	--	101	100	100	101	100	101	101	102
North 4	102	101	103	102	100	101	102	101	102	101
South 1	65	86	108	117	72	78	37	56	110	115
South 2	0	0	102	105	89	84	91	89	101	102
South 3	63	84	135	136	136	61	44	49	135	131
South 4	71	72	103	106	108	116	101	102	106	101

Note: OBCM implies Other Backward Communities and Minorities

Source: DDPI, Bengaluru North and DDPI, Bengaluru South.

4.4 Drop out, Out of School children and Mainstreaming of children

In an ideal world one would have liked to see all children in school, however, not all children are able to attend school or are able to complete school. At the national level it has been reported that close to one-fifth of the children have either never attended school or have attended school in the past but are currently not attending (IHDR, 2011). Three most important reasons identified among the various reasons for discontinuation or dropping out of schools are lack of interest on the part of parents, lack of interest on the part of children, and financial constraints. Among these three reasons, financial constraint seems to be the most important factor for discontinuation/dropping out of school. The drop out rate for Bengaluru Urban district for the year 2011-12 is 0.3 percent. Among the versions taluks, Anekal has a drop out rate of 0.3 percent Bengaluru East has a drop out rate of 0.4 percent, Bengaluru Nort has a drop out rate of 0.5 percent, while Bengaluru South has a drop out rate of 0.1 percent. All the above rate are 2011-12. Table 4.9 shows the out of school children and those mainstreamed for the year 2012-13.

The number of out of school children for each of the blocks seems to be around a per cent of the overall enrolment, thus by these numbers the problem seems to be of a manageable size. North 3 has the highest number of out of school children followed North 1 block. The number of out of school children in Bengaluru South seems to be much smaller than that in Bengaluru North. Only one block in South i.e. South 4 has more than 500 out of school children with the all the other blocks including Anekal having less than 300 out of school children.

Table 4.9: Out of school and mainstreamed children for 2012-13

	Out of school	Mainstreamed	Per cent
Anekal	172	109	63.4
North 1	1109	472	42.6
North 2	998	522	52.3
North 3	1182	100	8.5
North 4	607	205	33.8
South 1	246	134	54.5
South 2	254	102	40.2
South 3	442	208	47.1
South 4	888	452	50.9
Total	5898	2304	39.1

Source: DDPI, Bengaluru North and DDPI, Bengaluru South.

Table 4.9a: Out of School and mainstreamed children for 2011-12

	Out of School	Mainstreamed	Per cent
North 1	315	124	39.3
North 2	324	122	37.7
North 3	1223	416	34.0
North 4	231	124	53.7
Total	2093	786	37.6

Source: DDPI Bengaluru North

Table 4.10: Transition rate in Bengaluru Urban district (in per cent)

	Year	N 1	N 2	N 3	N 4	Anekal	S 1	S 2	S 3	S 4
Admission to class 6 from class 5	2001-02	95	85	78	92	95	94	96	98	98
	2009-10	98	93	98	98	84	99	98	96	96
Admission to class 8 from class 7	2001-02	90	90	68	91	92	92	91	92	97
	2009-10	96	95	95	95	81	93	98	93	98

N- North, S- South.
Source: DDPI, Bengaluru North and DDPI, Bengaluru South

With respect to mainstreaming of out of school children, Anekal seems to lead the way where 109 out of 172 children have been mainstreamed. It would be have been noted that in Table 4.9 we have reported 2012-13 figures, this is because data for 2011-12 was not available for all the nine blocks in the district. In order to give a flavour we present the data for 2011-12 for North 1 to North 4. We can see that there is a yearly variation with respect to each block; however, the overall per cent for the North block has come down from 37.6 per cent in 2011-12 to 33.3 per cent in 2012-13. For the district as a whole, 39.1 per cent of the out of school children have been mainstreamed. These figures clearly hint that Bengaluru being an educational centre, the importance of education seems to have been understood by its inhabitants.

4.5 Transition rate

Another important parameter that measures the continuation of studies by children is the transition rate which is the percentage of students who pass from one level of education and move on to the next higher level (from primary to intermediate; or from intermediate to secondary). Table 4.10 shows the transition rate of the various blocks in Bengaluru Urban district for two different years.

The trend in transition rate has been encouraging with most of the blocks reporting higher transition rate in 2009-10 compared to that in 2001-02. Performance of North 3 block has been exceptional with the transition rate increasing from 78 per cent to 98 per cent for Class 6, and that for Class 8 increasing from 68 per cent to 95 per cent. Transition rate to Class 6 for North 4 and South 1 blocks have also made good progress during this period. Similarly, the improvement in transition rate to Class 8 in South 2 block also has been impressive. Performance in Anekal block seems to have gone in the other direction with transition rate to Class 6 as well to Class 8 nose diving from 95 to 84 per cent and 92 to 81 per cent respectively.

4.6 Teacher Pupil ratios

An important aspect in understanding the quality aspect of the educational scenario in the district is the teacher pupil ratio. Table 4.11 shows the teacher pupil ratio for elementary schools. Ideally, given that all conditions are the same; a lower pupil to teacher is desired, as this would help

Table 4.11: Pupil and working teacher ratio in elementary schools of Bengaluru Urban district

Management	North	South
Central Government	63	67.9
Department of Education	25.6	24.9
Local body	21.5	36.7
Private Aided	43.6	43.9
Private Unaided	42.1	48.2
Tribal/Social Welfare Department	30.3	29.3
Others	75.1	56.5

Source: Sarva Shikshana Abhiyan, Karnataka, 2012-13.

the teacher to concentrate more on each student in the class.

Department of Education schools have the least pupil teacher ratio in Bengaluru South, whereas local body schools have the least pupil teacher ratio in Bengaluru North. There is not much difference in the pupil teacher ratio of private aided and unaided schools in Bengaluru North, while private aided schools have a better ratio than private unaided schools in Bengaluru South. Other schools have the highest ratio in Bengaluru North whereas Central government schools have the highest ratio in the South. This ratio in some ways probably hints at the better quality education provided in private and Central government schools which compels parents to prefer these schools despite their higher pupil teacher ratio. It may have been noticed that table 4.11 gives a distribution of elementary schools with respect to working teachers, which is for the year 2012-13. Table 4.11a gives the scenario at the district level for the year 2011-12 with respect to the total number of teachers. It can be seen that both Bengaluru North and South have a very impressive ratio of 25 and 21 respectively.

Picture 4.3 A classroom in a government school in Bengaluru Urban district



Photo Courtesy: Deputy Director Office Primary Instruction (DDPI), Bengaluru South.

4.7 Infrastructure and Access

The importance of infrastructure available in school cannot be over emphasized and parents probably consider it as a parameter while sending their wards to school. Thus available infrastructure is a key determinant for access to schools. Increasing access to schools implies that the necessary infrastructure for school children is in place. As per government norms, there are eight essential infrastructure facilities that need to be available in school; these are Boys toilet, Girls toilet, Drinking water facility, Electricity, Play ground, Ramps, Library, and Compound wall.

In 2012-13, of the 505 Department of Education primary and upper primary schools in Bengaluru North, 9 schools did not have toilet for boys while 221 of them did not have a playground, 85 of them were

Table 4.11a: Student teacher ratio in Bengaluru Urban district in 2011-12

	Bengaluru North	Bengaluru South
Total teachers	18383	30289
Total students	460125	637733
Students Teacher Ratio	25.0	21.0

Source: DDPI Bengaluru North and DDPI Bengaluru South

Table 4.12: Infrastructure in schools for the year 2012-13

Division	Total	NBT	NGT	NDW	NE	NP	NR	NL	NC
North - E	1769	0.79	0.17	0	3.17	3.17	64.33	5.71	11.48
South -E	2651	1.40	0.98	0.04	1.28	1.28	55.60	2.57	13.66
North -S	924	0.54	0.11	0	1.95	16.88	75.65	3.46	8.01
South -S	1199	0.83	0.75	0	0.50	13.18	74.31	1.42	6.51

E implies Elementary, S implies Secondary, NBT-No Boys Toilet, NGT-No Girls Toilet, NDW- No Drinking Water, NE- No Electricity, NP- No Playground, NR- No Ramps, NL- No Library, NC- No Compound Wall, Total – Total no. of schools. All except Total are in per cent.
Source: Sarva Shikshana Abhiyan, Karnataka, 2012-13.

Table 4.12a: Infrastructure in schools for the year 2011-12

Division	Total number of schools	NBT	NGT	NDW	NE	NP	NR	NL	NC
North	1946	1.80	1.28	0.05	1.44	25.03	69.01	2.67	13.57
South	2860	2.27	1.92	0	0.91	29.86	59.30	1.92	15.35

NBT-No Boys Toilet, NGT-No Girls Toilet, NDW- No Drinking Water, NE- No Electricity, NP- No Playground, NR- No Ramps, NL- No Library, NC- No Compound Wall. All except Total are in per cent.
Source: DDPI Bengaluru South

yet to have a compound wall while 303 of them did not have ramps. Among the 54 secondary schools of Department of Education in Bengaluru North, 1 school did not have a toilet for boys while 14 schools did not have a playground, 37 schools were functioning without a ramp while 5 schools were yet to have a compound wall. The infrastructure provided in private schools in Bengaluru North is also far from ideal, for example there are private schools at the primary level both aided and unaided that did have toilet facilities for boys, did not have electricity, ramps, library, and compound wall. The infrastructure in private schools at the secondary level in Bengaluru North is also not very different. Department of Education, private aided, and private unaided schools also provide a similar picture as that in Bengaluru North. Table 4.12 sums up the infrastructure scenario of schools in Bengaluru Urban district.

Elementary schools in the South have to catch up with North with respect to providing toilets for boys and girls. One school in South does not have provision for drinking water. With respect to electricity and playgrounds, elementary schools in the South were better off than those in North. The number of elementary schools in North and South that did not have library facility was not so negligible, while a majority of elementary schools in the district did not have ramps. Finally, a sizeable number of elementary schools in the district did not have compound walls, which is a cause for concern with respect to safety of the students. As can be seen from table 4.12 the trend for secondary schools is similar to that for elementary schools.

Another way to assess the infrastructure in schools is through the infrastructure index computed for schools in the district. As per the 2012-13 ranking circulated by Sarva Shikhshana Abhiyan, the infrastructure index for primary schools of Bengaluru Urban district is 0.8 as per which it is ranked 22 in the State, the infrastructure index for upper primary schools of the North division is 0.85 for which it is ranked 14 in the State,

Table 4.13 Eight basic facilities- Infrastructure Index for the year 2012-13

Division	BT	GT	DW	E	P	R	L	C	Infrastructure Index
North -E	0.9921	0.9983	1.0000	0.9683	0.9683	0.3567	0.9429	0.8852	0.8890
South - E	0.986	0.9902	0.9996	0.9872	0.9872	0.4440	0.9743	0.8634	0.9040
North - S	0.9946	0.9989	1.0000	0.9805	0.8312	0.2435	0.9654	0.9199	0.8667
South - S	0.9917	0.9925	1.0000	0.9950	0.8682	0.2569	0.9858	0.9349	0.8781

E implies Elementary, S implies Secondary, BT- Boys Toilet, GT-Girls Toilet, DW- Drinking Water, E- Electricity, P- Playground, R- Ramps, L- Library, C- Compound Wall.

Source: Sarva Shikshana Abhiyan, Karnataka, 2012-13.

Table 4.13a: Eight basic facilities- Infrastructure Index for the year 2011-12

Division	Total number of schools	BT	GT	DW	E	P	R	L	C	Infrastructure Index
North	100	0.9820	0.9872	0.9995	0.9856	0.7497	0.3099	0.9733	0.8643	0.8564
South	100	0.9773	0.9808	1.0000	0.9909	0.7014	0.4070	0.9808	0.8465	0.8606

E implies Elementary, S implies Secondary, BT- Boys Toilet, GT-Girls Toilet, DW- Drinking Water, E- Electricity, P- Playground, R- Ramps, L- Library, C- Compound Wall.
Source: DDPI Bengaluru South

Picture 4.4 Students learning computer skills at a government school



Photo Courtesy: Deputy Director Office Primary Instruction (DDPI), Bengaluru South.

the infrastructure index for upper primary schools of South division is 0.74 for which it is ranked 23 in the State. The rankings clearly show that there is a lot to improve for schools in Bengaluru with respect to the infrastructure available in schools.

We discussed the situation in 2012-13 above. Table 4.12a gives us the situation in 2011-12 but it must be mentioned that this is for the whole block. Schools seem to have improved their infrastructure from 2011-12 to 2012-13, which is a good thing.

4.8 Eight Basic facilities – Infrastructure Index

The eight basic facilities required in schools are boys toilet, girls toilet, drinking water, electricity, playground, ramps, library, and compund wall. Table 4.12 has already discussed the unavailability of these facilities in schools. Hence, here we mention more on the percent of schools that have these facilities, which is then computed as an index. Table 4.13 shows the values.

As can be seen from the table relatively few schools have ramps as a result of which the infrastructure index falls within the range of 87 to 90 per cent. Thus there is some work to be done so that infrastructure index can reach the 100 per cent mark.

As can be seen table 4.13 was based on 2012-13. Table 4.13a is based on 2011-12 and is for the whole block. There is certainly improvement in terms of facilities if one compares 2011-12 and 2012-13.

4.9 Pass Rate

Secondary school leaving certificate (SSLC) exam is the parameter which will help us understand the human capital

that has been developed in the district as a result of schooling. Table 4.14 shows us the results for Bengaluru North division.

Despite the dips in few years, the trend of pass per cent of students in Bengaluru North has been increasing, this improved performance however compared to the performance across the State does not seem to be enough as shown in lower rankings over the years. This clearly shows other districts or blocks are doing much better than Bengaluru North, and there needs to be more concerted effort on part of the education community to improve the pass rate.

4.10 Post-Secondary Education

Post secondary education is an important aspect for training the future workforce of the country. As per the Bengaluru Urban district Zilla Panchayat, in the year 2011-12, the number of students in the pre-university colleges of the district was 161071, of which there were 61839 girls and 60540 boys. Higher number of girls is indeed a heartnening feature to note. In Anekal, which is a rural taluk, 1562 girls were enrolled in pre-university colleges compared to 1335 boys. This trend was also seen in Bengaluru North where there were 28156 girls compared to 27030 boys. With respect to enrolment in government general degree colleges, girls at the district level at 11882 enrolments outnumbered 10185 enrolled boys. Bengaluru City led the way here; there were 8449 number of girls to 6039 boys. The number of boys enrolled in government general degree colleges in Anekal, Bengaluru North, Bengaluru South, and Bengaluru East was higher than the number of girls enrolled

Table 4.14: SSLC pass rate for Bengaluru North division

Year	Students appeared	Pass students	Pass per cent	Rank in State
2007	42139	33044	78.4	13
2008	43444	30140	69.4	13
2009	43901	32450	73.9	14
2010	43452	30955	71.2	11
2011	42987	31254	72.7	15
2012	45325	35059	77.4	27
2013	44271	36813	83.2	22

Source: DDPI, Bengaluru North

Table 4.15: Per capita expenditure on Education by BBMP

Year	Education expenditure (Rs. lakhs)	Population*	Per capita expenditure in Rs.
2008-09	2751.8	7,584,176	36.3
2009-10	2734.7	7,860,998	34.8
2010-11	2899.6	8,147,925	35.6
2011-12	3437.8	8,443,675	40.7
2012-13	3599	8,750,160	41.1

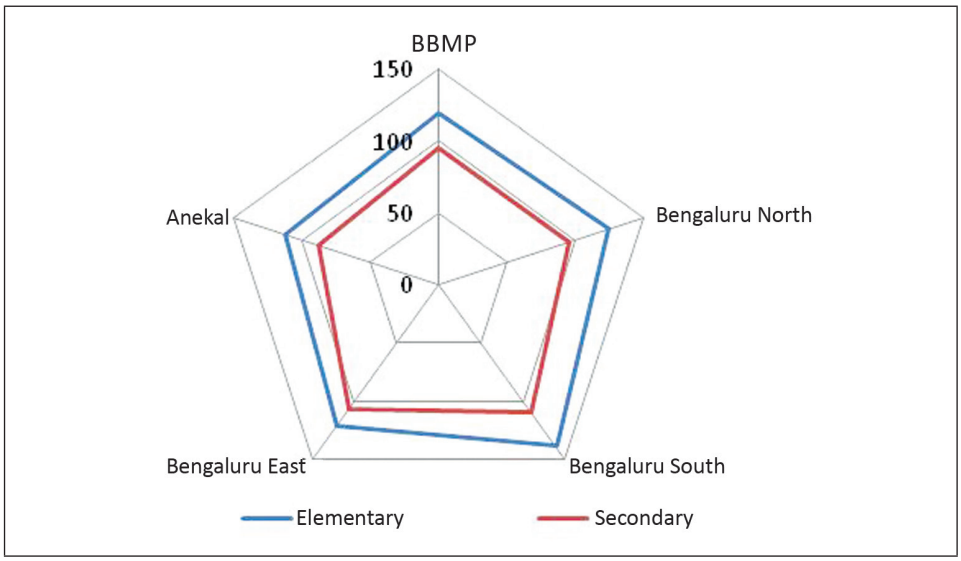
Note: * Population for 2008-09, 2009-10, 2010-11, and 2012-13 was projected using Census 2001 and Census 2011 population figures.
Source: BBMP

at these taluks. This clearly shows that efforts need to be taken to increase the enrollment of girls in government degree colleges. With respect to enrolment in private general degree colleges, girls clearly outnumbered the boys at the district as well as taluk levels; there were 21967 girls compared to 16865 boys at the district level, in Bengaluru South there were 12233 girls compared to 8917 boys whereas in Bengaluru North there were 9734 girls compared to 7948 boys.

There are various options in medical education, as per the district at glance in 2011-12 the number of seats available in government medical colleges (including allopathy and Indian medicine) was 150, whereas the number of seats available in private medical colleges (including allopathy and Indian medicine) was 930. The number of seats in the government Indian system of medicine colleges was 626 while the number of seats in the private Indian system of medicine colleges was 960, of which 478 girls were enrolled and 482 boys were enrolled. The number of seats available in the government dental college was 60 compared to the 1000 seats available in private dental colleges. Clearly in medicine there is more supply of private seats than government seats.

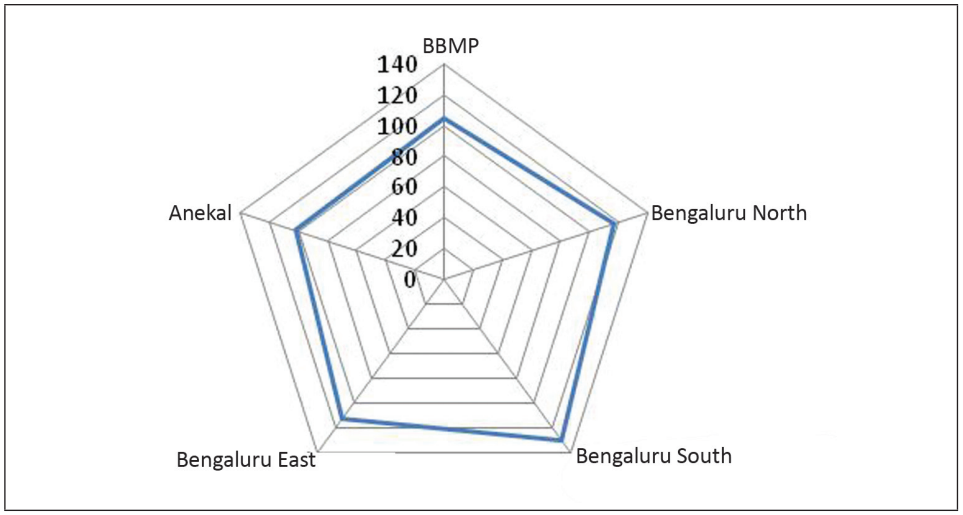
The number of seats in government polytechnics in 2011-12 was 2027 while the number of seats available in private polytechnics was 10501. The number of seats in government engineering colleges was 845 while the number of seats in private engineering colleges was 27990. Once again the supply of private seats is much higher than that of government seats. Among the 27990 seats in private engineering colleges, there were17074 boys compared 10918 girls. This probably hints that in the field of post secondary education boys prefer engineering more than girls.

Chart 4.1: GER for Elementary and Secondary schools in Bengaluru Urban district



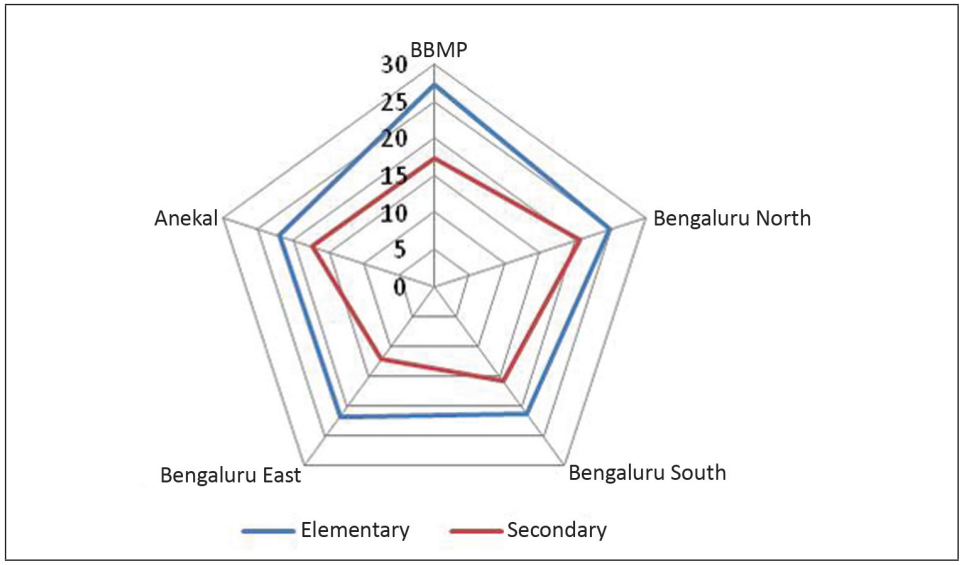
Source: DDPI, Bengaluru North and Bengaluru South

Chart 4.2: NER for Elementary schools in Bengaluru Urban district



Source: DDPI, Bengaluru North and Bengaluru South

Chart 4.3: Student teacher ratio for Elementary and Secondary education



Source: DDPI, Bengaluru North and Bengaluru South

4.11 Per-capita Expenditure Analysis

Table 4.15 shows the per capita expenditure on education by BBMP for Bengaluru City. This per capita expenditure has been computed interpolating the population, using Census 2001 and 2011 figures. The population for 2012-13 has been extrapolated using the projected population of 2010-11 and the population of 2011-12.

The table shows the per capita expenditure in current rupees. After a minor dip in 2009-10, per capita expenditure on education by BBMP has shown an increasing trend, which is a heartening feature. The expenditure on education by BBMP is for the corporation schools in the district, which

are less in number compared to the schools that are funded by the Sarva Shikhshan Abhiyana. As per the Bengaluru urban Zilla Panchayat, the per capita expenditure by the Zilla Panchayat on education in the district for the year 2011-12 was Rs. 795/-. This roughly comes to 0.6 per cent of the taluk domestic product, which way below than the recommended expenditure of 6 per cent (IHDR, 2011). Needless to say, the expenditure mentioned here does not include the out of pocket expenses of parents and students.

4.12 Radar Analysis for Education

Chart 4.1 shows the GER for elementary and secondary schools in Bengaluru Urban district, all the taluks and BBMP have a higher GER for elementary schools compared to that of secondary schools. This clearly indicates the need to create awareness on the importance of secondary education among the residents of Bengaluru Urban district.

Chart 4.2 shows the NER for elementary schools in Bengaluru urban district, the NER for the taluks and BBMP is above 100 per cent, this is because of the migrant population in the City as well as preference of students in adjoining districts to enrol in the schools located in Bengaluru Urban district.

Chart 4.3 shows the student teacher ratio for elementary and secondary education in Bengaluru urban district. It can be seen that secondary schools have a lower ratio compared to that of elementary schools. This probably could also be due to the lesser number of students enrolled in secondary schools compared to that in elementary schools.

4.13 Overview and Educational gaps

Bulk of the enrolment in the district is in private unaided schools, this is despite the fact that these schools have among the highest pupil to teacher ratio, the reasons for this preference need to be understood so that policy can help in attaining better educational outcomes. The relatively lower ranking in SSLC pass percentage needs to be worked on. There is much work to be done in terms of improving the infrastructure in the schools of Bengaluru Urban district. The expenditure on education by the Zilla Panchayat is way below prescribed standard norms; hence, there is an urgent need to increase the district expenditure on education.

5 Health and Nutrition









5.1 Introduction

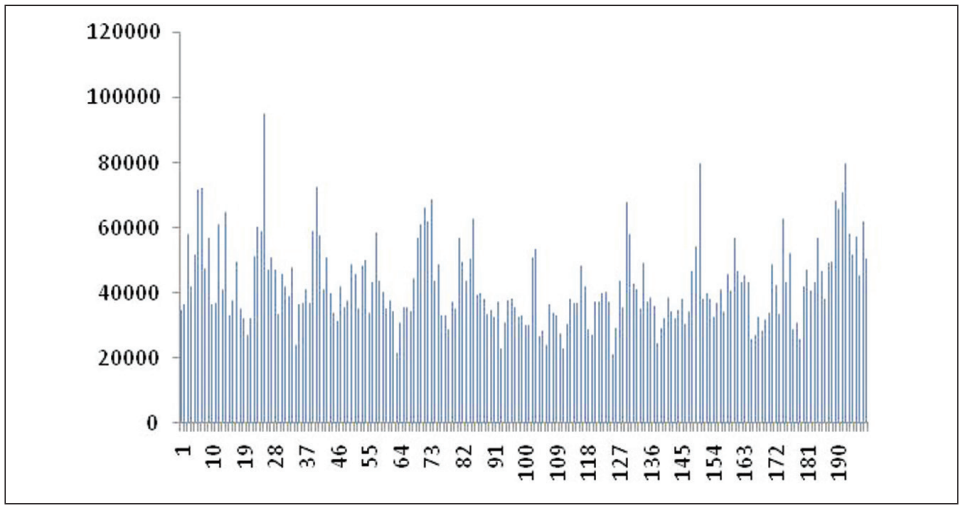
The importance of good health cannot be over emphasized, suffice to say it is both a necessary and sufficient condition to advantage of the available opportunities in one's life. Adequate nutrition for the body is an essential for good health. Thus health and nutrition are intricately linked to each other, depending on the living conditions they can either be in a virtuous cycle where improvement in one benefits the other and this cycle continues, or a vicious cycle where fall in one leads to a fall in the other and this cycle continues. Healthy citizens by their constructive economic activities contribute to the growth and development of a country in numerous ways. Healthy children generally have better school attendance and learning, which later turns out to be a good foundation for higher earnings. Thus healthy children and women provide the foundation for growth and development of the country, which is a challenge for a populous country like India.

5.2 Demography: Population by place of residence, sex and social groups, sex ratio

As per Census 2011 the total population of Bengaluru Urban District is 96.21 lakhs. We have already discussed about the population in chapter 2, table 2.2. The two points that have been stated there needs to be kept in mind while reading the chapter.

Since Bengaluru City accounts for a substantial portion of the district's population, an analysis of the population trends at the ward level is very essential. There were only 100 wards in 2001 while the number of wards in 2011 was 198, thus a one to one comparison of the wards in 2001 and those in 2011 may not be correct. Thus we try to present the population in the wards of the city as per Census 2011. Chart 5.1 shows the ward wise population in Bengaluru City.

Chart 5.1: Ward population in Bengaluru City as per Census 2011



Source: Department of Census, Government of India

The average population in a ward of the City is 42645. There are 119 wards that have a population that is less than the average, while there are 79 wards that have a population greater than the average. Ward number 125, which is Marenahalli has the lowest population of 21171 in the City; while ward number 25, which is Horamavu has the highest population of 95368 in the City. 10.6 per cent of the wards in the City have population that is greater than 20000 but lesser than 30000; a majority, i.e. 40.9 per cent of the wards of the City have population that is greater than 30000 but lesser than 40000. 25.8 per cent of the wards in the City have population that is greater than 40000 but lesser than 50000, while 12.6 per cent of the wards in the City have population that is greater than 50000 but lesser than 60000. Thus almost 90 per cent of the wards in the City have lesser than 60000 people. There are 13 wards in the City that have a population that is greater than 60000 but lesser than 70000, while the number of wards having population that is greater than 70000 but lesser than 80000 is 4. There are 2 wards in the City that have population that is greater than 80000 but lesser than 90000, while only 1 ward in the City has population greater than 90000. The total population of these 20 wards is 13.79 lakhs, which is 16.33 per cent of the total population in the City. It is clear that these 20 wards require special attention with respect to all necessary health and sanitation services to cater to the relatively large population that resides in these wards.

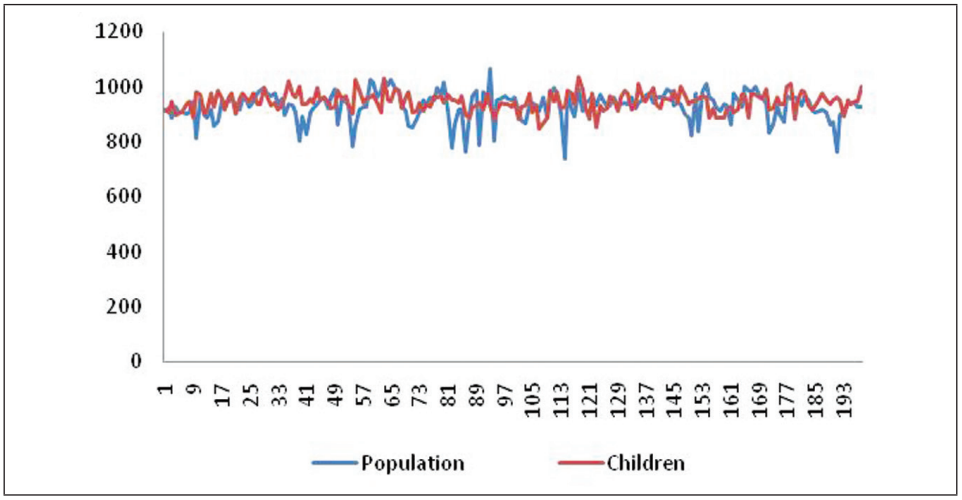
Male and Female population

The distribution of males and females in the district has already been discussed in table 2.3; the reader may refer to the analysis in table 2.3. Similarly the distribution of girls and boys among children has been discussed in table 2.4; the reader may kindly refer the table.

The scenario with respect to gender in the wards of Bengaluru City can be seen from Chart 5.2. This chart shows the sex ratio of adults as well as children below the age of 6, across the wards of Bengaluru City. From the chart it is clear that the ratio among children is much better and stable than that among population. As can be seen from the chart, compared to the ratio among children below 6, there is more fluctuation in the ratio of population. There are 9 wards where the ratio among children below 6 is 1000 or above, while there are 10 wards in the City where the ratio for the population is 1000 or above. Ward number 93, which is Vasanth Nagar, has the highest ratio of 1067 for the overall sex ratio i.e. sex ratio for whole population; it is interesting to note that this ratio among children in Vasanth Nagar is 928. The highest ratio among children is 1034 in ward number 118, which is Sudama Nagar; the sex ratio for the whole population of Sudama Nagar is 992 which probably is the ideal, in the sense that, the ratio among children should be higher than that of the population.

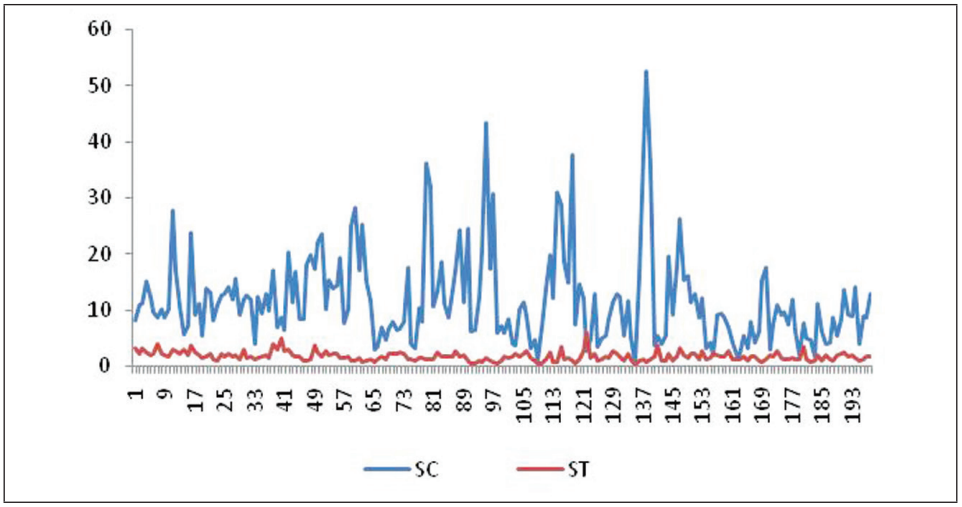
There are 106 wards in the City that have a higher sex ratio among children in the age group of 0-6 years than that of the population. One of the probable reasons for this could be the social change happening in terms of acceptance of the girl child. However, there are 92 wards

Chart 5.2: Sex ratio for ward population and children below the age of six as per Census 2011



Source: Department of Census, Government of India

Chart 5.3: Proportion in per cent of SC and ST in the wards of Bengaluru City as per Census 2011



Source: Department of Census, Government of India

where this is not happening. Agaram ward has the lowest overall sex ratio of 736 among population; the sex ratio among children in the age group of 0-6 years in Agaram is 922, which is a healthy sign. The lowest sex ratio among children in the age group of 0-6 years is 845 in the ward Shivanagara, the sex ratio among overall population of Shivanagara is 912, this is something which probably is not desirable.

Scheduled Caste and Scheduled Tribe population

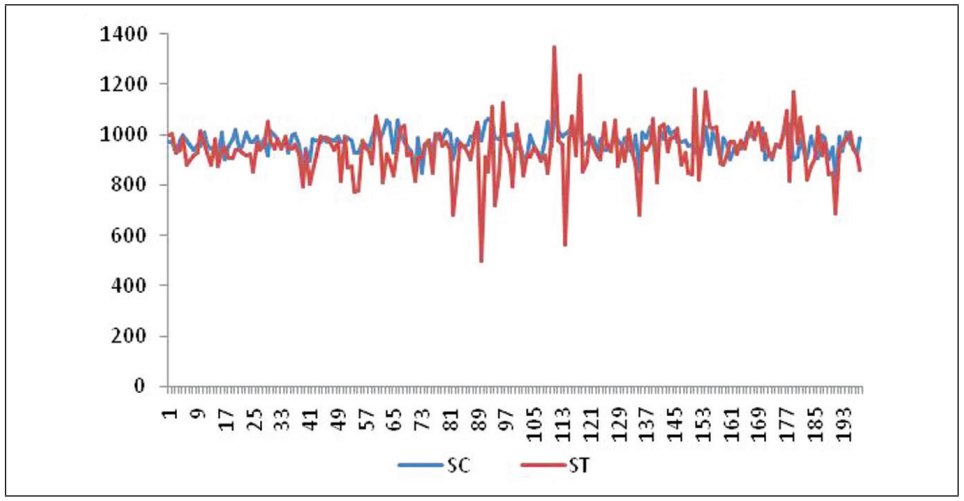
The proportion of scheduled castes (SC) and scheduled tribes (ST) in 2001 and 2011 has been discussed in table 2.5; hence we do not repeat the analysis here.

Chart 5.3 shows the proportion of SC and ST population in the wards of Bengaluru City.

It can be seen that as a proportion of total population SC's have a higher share in almost all the wards than that of ST's. At 52.6 per cent, the highest proportion of SC's are found in the ward Chalavadipalya, while at 6 per cent the highest proportion of ST's are found in the ward Kempapura Agrahara. Ward number 135, which is Padarayanapura has the least proportion of SC's (0.4 per cent) as well as least proportion of ST's (0.2 per cent). Ward number 122, i.e. Kempapura Agrahara has more number of ST's than SC's which is against the norm seen in the district.

We have already discussed the sex ratio for SCs and STs in table 2.6; hence we refer the reader to table 2.6. Chart 5.4 shows the sex ratio for SC's and ST's at the ward level in Bengaluru. The chart is certainly a revelation. There is a ward, Bharathi Nagar, where the ratio for ST's is as low as 500, even Agaram and Padarayanapura have very low ratios for ST's. This indeed is a matter for concern. The ratio in the ST community of Bengaluru has high variation, the ratio in the ward of Shantala

Chart 5.4: Sex ratio among SC and ST in the wards of Bengaluru City as per Census 2011



Source: Department of Census, Government of India

Nagar is as high as 1347. The ratio in the ST community of Sudhama Nagar is also as high as 1233. There are 36 wards in Bengaluru City where the sex ratio for ST's is higher than 1000.

Comparatively, the SC community seems on a better path with lesser variation, with the lowest value being 819. There are only 7 wards that have ratio value less than 900, while there are 141 wards which have value greater than 900 but lesser than 1000. We can comment later in the chapter on SC's and ST's, if one of the factors for the lower sex ratio among ST's is low literacy rates.

5.3 Maternal Mortality and Infant Mortality Rate

As observed initially, healthy mother and a healthy child are, if we may say, an essential for a modern progressive nation. A healthy infant is a pre-requisite for a healthy child, and an infant would be healthy if the mother is given proper nutrition and care. Pregnancy as is well known can be fatal if adequate care and precaution are not taken. Maternal mortality rate (MMR) is defined as the number of deaths of pregnant mothers per lakh live births. Let us look at the trend in the district and its various taluks for the past few years. Table

Table 5.1: Maternal Mortality rate in Bengaluru Urban District

	2008-09	2009-10	2010-11	2011-12
Anekal	46	142	0	0
BBMP	50	69	69	66
Bengaluru East	63	74	47	44
Bengaluru North	19	22	41	65
Bengaluru South	23	29	49	24
District	39	57	45	45

Note: These numbers differ from that of the district level health survey; however, since these have been given by the respective health offices, we present them here. Data reported in the annexure is from SRS-2011.
Source: District Health Office, Bengaluru Urban District; Health Department, BBMP.

Table 5.2: Severe anemia cases as a per cent of registered pregnant women

	2008-09	2009-10	2010-11	2011-12
Anekal	6.0	6.0	6.1	6.0
BBMP	6.5	7.2	7.3	7.7
Bengaluru East	6.9	6.9	5.6	4.0
Bengaluru North	15.0	10.0	10.0	10.0
Bengaluru South	0.1	2.2	0.9	0.9
District	7.4	7.0	3.1	6.6

Source: District Health Office, Bengaluru Urban District; Health Department, BBMP.

5.1 shows the trend in the district and the various taluks for the past few years.

It can be seen that there is no trend per se to comment on. In BBMP area MMR has increased from 50 to 69, which dropped slightly to 66 in 2011-12. MMR in Bengaluru North has seen an increasing trend, the reasons for which need further exploration. Comparatively, performance of Bengaluru South seems to be better, though there was a peak of 49 in 2010-11. The trend in Bengaluru East after an increase has been of decline, which if it continues speaks well about the health services in the taluk. Performance of Anekal in the reported first three years clearly indicates high variation, hence it will need confirmation if the zero MMR reported has continued or it was just a flash in the pan. Thus for the district, which is looked up as a frontrunner in the state, the reported MMR figures give a much needed reality check to further improve the health delivery services mechanisms.

Data on MMR in the annexure is much higher than the reported figures in table 5.1. The SRS figures in the annexure clearly highlight the need to more work with respect to reducing the MMR in all the taluks of the district.

It has been reported in numerous scholarly studies that anemia remains one of the major indirect causes of maternal mortality in India. Table 5.2 shows the severe anemia cases reported as a per cent of registered pregnant women.

The per cent of women having severe anemia in Bengaluru North, BBMP, and Anekal is not insignificant. Almost a tenth of pregnant women in Bengaluru North suffer from severe anemia. In BBMP area this per cent has hovered around 7 per cent, while in Anekal this has been consistent at 6 per cent. As a result, almost 6 per cent of the pregnant women in the district suffer from severe anemia, raising a question mark on the kind of care that is provided to them. Bengaluru East has shown a declining trend which indicates that there are efforts being carried out in the district to reduce this problem. Perhaps the other taluks and BBMP should learn from Bengaluru South where the per cent of pregnant women suffering from severe anemia is at tolerable levels.

Table 5.3: Per cent of registered pregnant women receiving full ANC

	2008-09	2009-10	2010-11	2011-12
Anekal	90.9	90.9	90.9	90.9
BBMP	100.0	100.0	100.0	100.0
Bengaluru East	103.3	121.9	105.5	121.9
Bengaluru North	98.6	96.2	94.6	97.6
Bengaluru South	70.5	103.4	84.6	87.2
District	94.9	101.5	96.1	99.2

Source: District Health Office, Bengaluru Urban District; Health Department, BBMP.

This indicates that we need to understand the trend of Ante Natal Care (ANC) among pregnant women in Bengaluru Urban district. This will help us understand if there were women who did not receive ANC.

It can be seen all the pregnant women registered in BBMP health centres were given full ANC, if this is true, then the cases of severe anemia that have been reported would be of mothers from nearby districts who would have come to avail the better facilities in the City. Just a fraction of the pregnant women registered in Bengaluru North have not received full ANC, once again if this is true, it indicates that cases of anemia from the adjoining districts also use the facilities available in Bengaluru North. We have already seen that the proportion of severe anemia cases in Bengaluru South was among the least, the numbers for Bengaluru South in table 5.3 indicate either a better awareness about keeping mothers healthy or better private facilities for ANC which substitute the taluk health office's efforts. In the case of Bengaluru East more

Table 5.4: Infant mortality rate in Bengaluru Urban district

	2008-09	2009-10	2010-11	2011-12
Anekal	3	4	4	2
BBMP	3	3	4	5
Bengaluru East	1	2	2	2
Bengaluru North	2	1	2	1
Bengaluru South	2	3	3	4
District	2	2	3	3

Note: These numbers differ from that of the district level health survey; however, since these have been given by the respective health offices, we present them here. Data reported in the annexure is from SRS-2011.

Source: District Health Office, Bengaluru Urban District; Health Department, BBMP.

Table 5.5: Couples using contraceptives in Bengaluru Urban district in per cent

	2008-09	2009-10	2010-11	2011-12
Anekal	60.0	60.0	60.0	60.1
BBMP	2.4	2.4	2.3	2.3
Bengaluru East	64.8	53.2	61.1	59.9
Bengaluru North	68.2	69.1	73.8	70.0
Bengaluru South	64.0	64.0	64.0	64.0
District	13.7	14.5	14.9	15.2

Source: District Health Office, Bengaluru Urban District; Health Department, BBMP.

than 100 per cent indicates that mothers from adjoining districts take advantage of the better facilities provided by the taluk health office, the cases of severe anemia reported here could once again be those of the adjoining districts preferring to get treated in Bengaluru East health centres, probably because of the anonymity the City provides. The constant per cent of women receiving full ANC makes one unsure about the numbers though this is perfectly in line with the per cent of pregnant women suffering from severe anemia in Anekal taluk. Pregnant mothers from adjoining districts seem to prefer not only the better facilities provided in the district but also the anonymity the City provides.

If pregnant mothers are unhealthy, naturally the child will also be weak, which can result to infant mortality. Let us now to analyze the trend in the infant mortality rate (IMR) of the district. This is defined as the number of infant deaths for every 1000 live births in a year. Table 5.4 shows the IMR in Bengaluru urban district for few years. As per the reported figures, the IMR in the district is at a tolerable level though there is room for improvement.

The better rates could either be a complement to the better facilities in the district or due to under reporting. We however, cannot ascertain as to which of these may be true or it could be possible that both of these factors to a certain extent could be responsible for the better rates.

Data on IMR in annexure is much higher than that reported in table 5.4. The higher numbers of IMR as per SRS is probably a reality check.

5.4 Couple protection issues

In terms of population, we are already the second most populous nation in the world and there are reports that suggest that we may soon become the most populated country in the world. Population growth per se is not very harmful but the given the kind of resource intense life that we lead today it may be impossible to provide resources to the growing population of the country. This affects the human development of the population and hinders the existing population from reaching its true development potential. It is here that issues of couple protection have their importance as it not only allows couples to make their choices but also helps in reducing the population growth of the country. Table 5.5 shows the couples in the district making use of contraceptives. This obviously is of the contraceptives available from the various health centres across the district.

The picture is not very rosy, only 2.3 per cent of the eligible couples have obtained contraceptives from the government health centres in BBMP area, this does not tell anything about couples who may have visited private clinics. Still, given a standard distribution of income in an economy, 2.3 per cent is very low, indicating the lack of awareness or willingness to use contraceptives. The four taluks in the district fare better compared to BBMP, however, the consistent numbers of Bengaluru South and Anekal makes

one unsure of the numbers, unless there is a special programme going on in these taluks which is throwing up such consistent numbers. Given the importance of controlling population there is scope for improvement in the performance of the district, especially that of the City. This can be done by creating more awareness among the couples of the district.

5.5 Infrastructure, Health Personnel facility, and Institutional Delivery

In the BBMP area there are 83 primary health centres with one doctor available in each of the health centre, while the number of nurses available is 192. In addition to these 83 doctors, there are 54 government doctors available at government hospitals. The number of health centres in Bengaluru South has increased from 7 in 2008-09 to 20 in 2009-10, which has remained constant from 2009-10 till 2011-12. The number of government doctors available in Bengaluru South has remained constant at 24 while the number of private doctors available has increased from 15 in 2008-09 to 68 in 2011-12. The number of government nurses available in Bengaluru South is 70 and this has remained the same from 2008-09 till 2011-12. In Anekal taluk, as of 2011-12, there were 13 health centres while the number of nurses available was just 108. The number of doctors available, as of 2011-12, was 384 with 21 being government doctors with the rest being private. Compared to the data from Bengaluru South, the data from Anekal seems more close to the actual situation on the ground. The number of health centres in Bengaluru East was 12 as of 2011-12 with just 57 doctors and 76 nurses available at these centres. With respect to Bengaluru North, as of 2011-12, the number of health centres was 32 with just 49 doctors and 26 nurses available at these centres. Given the total population in the district being more than 95 lakhs the health care infrastructure provided by the government seems less than adequate to cope with the situation, hence there are many private practitioners as well as hospitals. As of 2011-12, in Bengaluru South taluk there were 37 private hospitals and 107 private clinics, in Anekal the figures were 31 and 70, respectively; while in Bengaluru North there were 18 private hospitals as well as 18 private clinics in 2011-12. In Bengaluru City, as per information made available by BBMP health department, the medical infrastructure consists of 18 major government hospitals, 679 private hospitals, and 70 BBMP hospitals.

With respect to institutional delivery, all the data that has been collected from the health departments points out to 100 per cent institutional delivery in BBMP area and more than 99 per cent in the other taluks. This data has to be understood in the context that not all pregnant women may be from the district there would pregnant women from adjoining districts who may have come to Bengaluru City to access the better facilities available in the district. Another context to be remembered is the cultural practices of the inhabitants of the district; there are communities both in rural as well as urban areas that prefer home to a hospital, and there are studies that have shown that this is not a negligible proportion.

5.6 Immunization of children and children born underweight

Just looking at the numbers of children immunized may lead us nowhere. Hence we try to present a ratio of the number of children immunized to the total number of live births in the taluk or district. This we feel gives us a context to place our discussion. Table 5.6 shows the ratio for the taluks and the district.

Except Anekal, all the taluks and BBMP have an immunization per cent of more than 100. This probably indicates that not only are all the children in these taluks and BBMP immunized but even children from adjoining districts are also brought into the taluks or BBMP area for immunization. This reflects as a whole on the performance of the district. The consistent number for Anekal either indicates the success of some programme or some probable discrepancy in the data; this comment however, in no way underestimates the good work being done in the taluk. Since a not so negligible percentage of the total deliveries in the district take place outside nursing homes/ hospitals, experts felt that the actual per cent of children fully immunized is around

Picture 5.1 A leading private hospital in Bengaluru Urban district



Bengaluru City: A Medical Hub

Bengaluru City has a large number of major hospitals, a number of which are well known around the world for its expertise. In addition there are many well known medical research institutions and colleges in the City. The brand value that the City has earned for itself due to its work in information technology has also helped it become a medical hub both at the national and international level.

Table 5.6: Ratio of children fully immunized to the total number of live births, in per cent

	2008-09	2009-10	2010-11	2011-12
Anekal	95.0	95.0	95.0	95.0
BBMP	126.5	135.8	161.1	189.6
Bengaluru East	130.2	123.7	145.2	141.5
Bengaluru North	143.4	106.1	111.0	121.5
Bengaluru South	102.8	106.5	109.7	109.8
District	123.1	116.1	125.9	133.7

Note: These numbers differ from the actual scenario on the ground; however, since these have been given by the respective health offices, we present them here. Data reported in the annexure is from SRS-2011.

Source: District Health Office, Bengaluru Urban District; Health Department, BBMP.

70 per cent for the district and not as represented in table 5.6.

An important parameter with respect to children is the number of children born underweight; it is no rocket science to understand that a healthy mother gives birth to a healthy child. Thus the trend of children born underweight will probably give us hints to see the milestones achieved by the process of change initiated in our society with respect to nutrition to women. Table 5.7 shows the per cent of children born underweight to the number of live births in a particular year.

The lack of variation in the numbers of Bengaluru East and Anekal, once again make us unsure of the data. The health centres in BBMP area seem to deal with the maximum proportion as well as number of children born underweight; this is understandable as the poor in the City would use the health services provided by BBMP's health department. Nutrition to pregnant women is indeed a challenge to policy makers. The trend in Bengaluru North clearly shows that almost a tenth of children born are underweight, this performance is better than that in BBMP. The low percentages of children born underweight in Bengaluru South indicate the awareness in that part of the district or the availability of nutrition to pregnant

Table 5.7: Proportion of children born underweight to the total number of live births, in per cent

	2008-09	2009-10	2010-11	2011-12
Anekal	15.1	15.0	15.0	15.0
BBMP	56.0	50.0	66.9	81.6
Bengaluru East	0.2	0.2	0.2	0.2
Bengaluru North	10.6	7.1	9.1	9.5
Bengaluru South	0.8	0.7	1.4	1.7
District	22.1	21.2	24.3	26.3

Note: These numbers differ from that of the district level health survey; however, since these have been given by the respective health offices, we present them here. Data reported in the annexure is from SRS-2011.

Source: District Health Office, Bengaluru Urban District; Health Department, BBMP.

Table 5.8: Reported cases of communicable diseases in Bengaluru Urban district

	2008-09	2009-10	2010-11	2011-12
Anekal	478	512	378	416
BBMP	22845	19771	25670	21530
Bengaluru East	838	815	687	532

Source: District Health Office, Bengaluru Urban District; Health Department, BBMP.

women in that taluk compared to other taluks.

5.7 Communicable Diseases

Healthy people contribute to the economy of the nation, thus it very important to practice hygiene such that communicable diseases are avoided. Communicable diseases not only destroys the health of the population but also affects the economy and hence the prosperity of the place. It can be assumed that a clean and hygienic place will have lesser communicable diseases than an unclean and unhygienic place. Table 5.8 shows the number of reported communicable diseases for few taluks and the BBMP.

It must be mentioned that almost 90 per cent of the reported cases in BBMP area is of dog bites with the remaining 10 per cent mostly of gastroenteritis. Since injections for dog bites are available at a very nominal cost at BBMP health centres it is our guess that a majority of the population in the BBMP area avail themselves this service. Gastroenteritis is an equal problem, if not more, but since there are numerous private health care providers the numbers reported at the BBMP centres seem to be on the lower side. Similarly the low numbers for Bengaluru East and Anekal, though a reason for cheer, seem to be underestimates.

5.8 Performance of various health schemes

There are numerous health schemes that are undertaken by the Zilla Panchyat through the office of the district health officer. Janani Suraksha Yojana is a scheme that helps poor pregnant women after delivery. Under this scheme, pregnant women belonging to below poverty line families and SC, ST families will get an assistance of Rs. 500 if delivery takes place at home, Rs. 600 for urban institutional delivery, Rs. 700 for delivery in health centres in rural areas, and Rs. 1500 for caesarian delivery. This benefit is available in government hospitals as well as recognized private health institutions. The number of beneficiaries under this scheme in the district in 2011-12 was 13310, the number of beneficiaries in Bengaluru North was 4971, Bengaluru South was 4896, Anekal was 2251, and Bengaluru East was 1192. Compared with number of live births the reach seems to be satisfactory for Bengaluru North and South, while for Bengaluru East and Anekal more work needs to be done for a better performance.

The objective under the Madilu scheme started by the government to provide post natal care for the mother and the child, is to encourage poor pregnant

women to deliver in health centres and hospitals in order to considerably reduce maternal and infant mortality in the state. Under this scheme a kit containing: mosquito curtain, medium sized carpet, medium sized bedsheet, a thick blanket for mother, bathing soap, washing soap, cloth to tie abdomen of mother, sanitary pads, comb and coconut oil, towel, tooth paste and brush, bed spread over rubber sheet for the baby, bed sheet for baby, bathing soap for baby, rubber sheet for baby, diaper, baby vest, sweater, cap and socks for baby, One plastic kit bag. The beneficiaries must belong to below poverty line families and delivery of the baby needs to be at government hospitals. The number of beneficiaries for medical kit in the district in 2011-12 was 12243, the number of beneficiaries in Bengaluru North was 4682, Bengaluru South was 4791, Anekal was 1920, and Bengaluru East was 850. There is scope for improvement in the case of Anekal as well as Bengaluru East.

Immunization is the most cost effective public health intervention to reduce mortality and vaccine preventable disease. At the district level there were 53247 DPT, Polio, and Hepatatis B immunizations of which 27413 were for boys and 25834 were for girls. There were 52129 Measles immunizations of which 25917 were for boys while 26212 were for girls. With respect to BCG vaccinations, there were 48139 vaccinations of which there were 24422 boys and 23717 girls.

Sterilzation is also carried out to stabilize the population, there are various ways in sterilization can be done. As per the 2011-12 district at a glance, the number of vasectomy carried out in the district was 363 while the number of tubectomy was 17600. Bengaluru North reported the highest number of vasectomy (138) and tubectomy (9359) procedures in the district. Anekal reported 2771 tubectomy and 63 vasectomy procedures. Bengaluru South had 65 vasectomy and 3462 tubectomy procedures. Given the huge population of the district there is scope for improvement in the sterilization achievements.

5.9 Per capita expenditure analysis on health sector

Table 5.9 shows the per capita health expenditure for BBMP. Using the population of 2001 & 2011, and assuming a uniform growth rate for each year we have computed the population of the years in between. Population in 2012-13 has been extrapolated using projected

Table 5.9: BBMP per capita health expenditure

	2008-09	2009-10	2010-11	2011-12	2012-13
BBMP health expenditure in Rs. lakhs	22498.03	19399.33	27498.71	33676.02	42150.73
Population	7584176	7860998	8147925	8443675	8750160
Per capita expenditure in rupees	296.6	246.8	337.5	398.8	481.7

Note: Expenditure in current rupees.

Source: Health Department, BBMP.

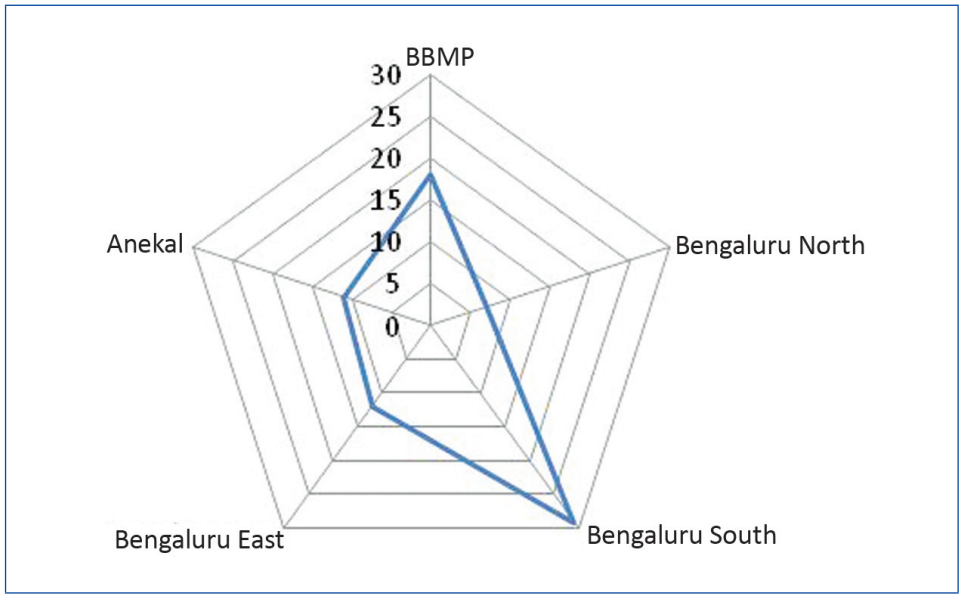
population of 2010-11 and population of 2011-12. The health expenditure is in current rupees.

After a dip in 2009-10, there has been a year wise increase in the per-capita expenditure, so much so that, the per capita expenditure in 2012-13 is almost two-third more than that in 2008-09. It is thus heartening to note the rise in per-capita health expenditure for BBMP area, which hopefully will soon translate into better health outcomes. The per capita health expenditure for the four rural taluks in the district for the year 2011-12 was Rs 1805/-. Rural taluks in the district have a higher per capita health expenditure compared to the per capita expenditure in BBMP area; this however, does not include the out of pocket expenditure incurred by inhabitants of the district.

5.10 Radar analysis for health

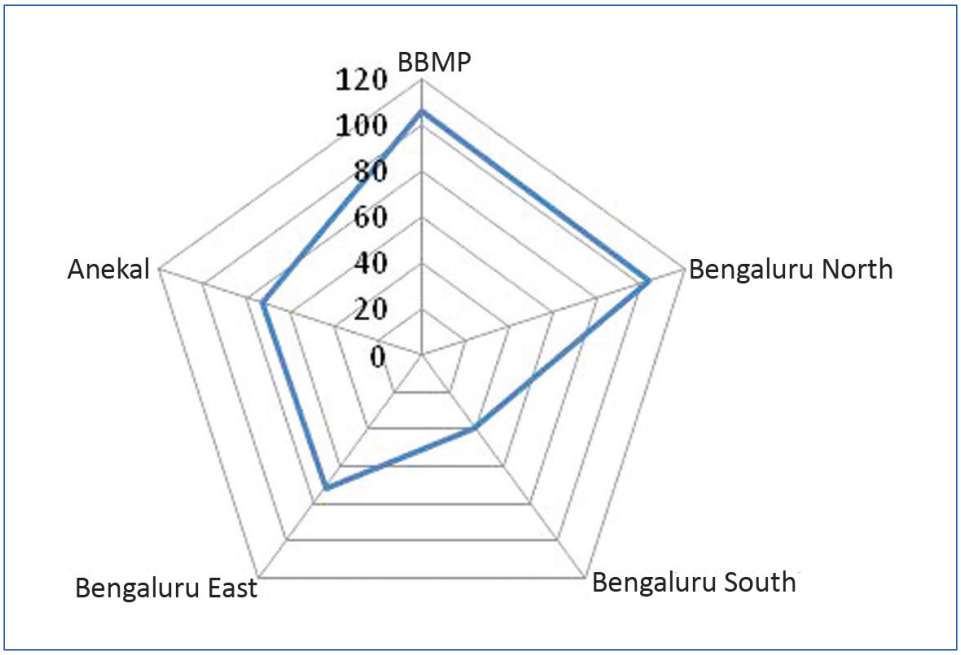
Chart 5.5 shows the radar analysis for IMR for the four taluks of the district and BBMP; this is for the year 2011-12. Similarly chart 5.6 shows the MMR for the four taluks of the district and BBMP. The IMR chart clearly shows that there is more work to do for BBMP and Bengaluru South compared to the other 3 taluks. With respect to MMR, BBMP, Bengaluru North, and Bengaluru East have much to improve compared to the other taluks. Chart 5.7 shows the per cent of children born under-weight for the year 2011-12, as can be seen from the chart the per cent is very high for BBMP compared to that in other taluks in the district, this also raises a question on the quality of health services delivered by BBMP, especially those to pregnant women in BBMP area. It could also be possible that these pregnant mothers were registered in other parts of

Chart 5.5: IMR for Bengaluru Urban district in 2011-12



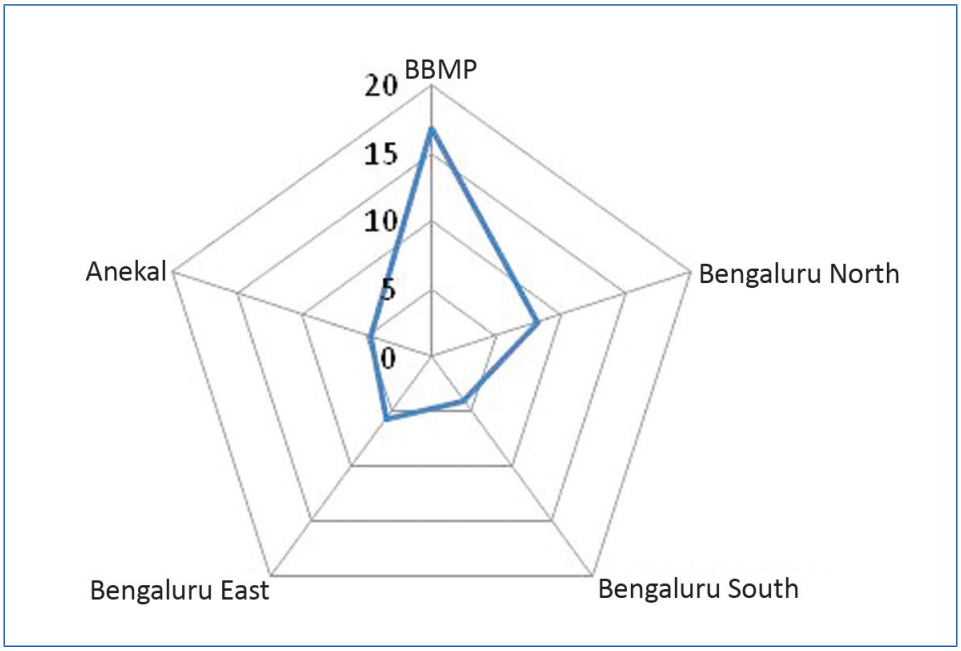
Source: District Health Office, Bengaluru Urban District; Health Department, BBMP.

Chart 5.6: MMR for Bengaluru Urban district in 2011-12



Source: District Health Office, Bengaluru Urban District; Health Department, BBMP.

Chart 5.7: Per cent of children born under-weight in 2011-12



Source: District Health Office, Bengaluru Urban District; Health Department, BBMP.

the state and came to Bengaluru City to avail the better delivery/medical services available in the City.

5.11 Small Area Study

It is quite apparent that with a population of more than 96 lakhs, Bengaluru Urban district is bound to have numerous area specific issues. To understand each issue would be an exercise in itself. The district is also unique in the sense that it is a primarily urban district with more than 84 lakh people living in BBMP area. Thus there has to be a balance of urban as well as rural issues, in the selected small area studies, which reflects the ground scenario. The studies that were finally carried out were those which were suggested by members and officers of ZP as well as office bearers of BBMP.

Urbanization and the resultant construction boom inevitably lead to increased quarrying, which has its consequences on health. The first study, hence concentrated on the menace of silicosis due to quarrying. With increasing urbanization and increasing migration, the contribution of Asha workers in improving the health condition of people was another important issue that was highlighted by the Chairwoman of the ZP. This was the second small area study that was carried out.

5.11.1 Menace of silicosis due to the quarries in the mofussil areas of Bengaluru Urban district

Quarrying is an undesirable but necessary feature that supports urbanization. As people construct more concrete houses in urban areas, the demand for stones increases, which leads to quarrying in suitable nearby areas, as that would reduce the cost of transportation of the stones. However, there is an environmental as well as health cost attached to quarrying, which has to be paid. Quarries produce massive amounts of dust and increased levels of radon gas; these have been linked to incidence of lung cancers, including silicosis and mesothelioma. Silicosis, a common occupational respiratory disease, is the oldest known form of pneumoconiosis. It is an occupational respiratory disease caused due to cumulative exposure to crystalline silica dust over the years- through accidental exposure to silica dust or silica containing commercial products. The risk of silicosis depends on the cumulative exposure to silica dust, but progression of the disease may depend on numerous factors such as the activity of anti-oxidative, anti-apoptotic, and anti-inflammatory enzymes of the individual. Exposure to high concentrations of crystalline silica in unprotected settings increases the chances of developing pulmonary fibrosis, myco-bacterial infection including tuberculosis, autoimmune disease, and lung cancer.

It is well known that silica is the most abundant compound found in the earth's crust and, hence, is the most common airborne dust that mines and quarries produce. As expected, the amount of silica in different species of rock varies and is not a reliable indicator of how much silica dust can find its way to the lungs. It is estimated that in Bengaluru Urban district there are around 200 quarries, which employ thousands of

workers, mostly migrants, who work long hours for 6 or 7 days a week. Given our treatment of labour, these workers work with the least protective gear and mostly live in makeshift settlements with poor living conditions. Within Bengaluru City, there are few areas which has large quarries, which may lead to a wide range of environmental and health problems for the residents of the City. For instance, there have news reports on respiratory disorders and other allergies in villages due to dust from granite factories and granite quarries.

Picture 5.3 shows the stone breaking facility that is set up next to the quarry, this adds to the dust generated from quarries. Water of varying composition is released due to incessant quarrying, this water is generally has high concentrations of numerous salts, which is not so healthy for people working in the quarries. This can be seen from picture 5.3. As our field visits showed workers generally carry their kids with them to the quarries. This can be seen from picture 5.4; once again as expected, these workers have very little protective gear while working. Lack of awareness, lower wages, and lack of affordable day care facilities are probable reasons for the labourers carrying their child to the quarry, and exposing the child to the dust/pollution generated in the quarry.

Picture 5.2 shows a typical quarry in Bengaluru Urban district.

In order to understand the problem of silicosis among the workers, we visited a primary health centre at Kadusonappanahalli near

Picture 5.2: A typical quarry in Bengaluru Urban district



Picture 5.3: Stone breaking facility next to a quarry



Picture 5.4: Water with high concentration of salts in quarries



the quarries; here one could hear the frequent dynamite explosions carried out at the quarries to break the stone.

Erpanahalli Bande and Hosur Bande are the quarries that are close to the PHC. The doctor at the PHC pointed out that the PHC at Kadusonappanahalli was an old one (there were new ones at Kannur, for example) and it was used by people from 4 or 5 villages nearby. Daily 20 to 25 patients visited the PHC of which at least 5 of the patients who reported respiratory problems were referred for further tests. This was because the PHC did not have the facilities for further tests. Upper respiratory problems, lower respiratory problems, bronchitis, and asthma are some of the problems with which patients arrive at the PHC. Thus almost 20 per cent of the patients to the PHC had some respiratory ailments. As per the doctor, respiratory problems affect men, women, and children (10-14 years) alike. The doctor also felt that incidence of respiratory problems was higher at the Kadusonappanahalli PHC compared to the PHC's he was posted earlier. The doctor also added that patients who came with respiratory problems generally were not advised to stay at home and went back to work.

Workers we met at the quarries said that they have had respiratory problems and go to the doctor once in a while. Roads leading to quarries pass through houses of workers, and are full of dust caused by the heavy trucks that pass through these roads to the quarries. Workers at the quarries earn about Rs 250 per day and have to shell out Rs 150 if they visit a private clinic. The workers seemed to visit only private clinics in the vicinity of their settlement. Given the nature of the problem, workers are not able to distinguish if the respiratory problem was due to the quarry dust or some other reason. Thus there is lack of awareness. Most of the workers in the settlement have migrated from Tamil Nadu and have been staying in nearby areas for the past 20 years. Their children have been Kannada medium school and speak Kannada fluently. As per GP officials most of the cases of silicosis go to private clinics in Yelahanka and other places in the city. GP officials add that workers do not speak against the quarry activities in fear of backlash from the quarry association. The quarries in this part of the district began operation around 1985. GP officials said that despite orders to stop work, quarries are still active adding to the pollution. Kannur GP officials said that they have made numerous requests to DC office to close the quarries but there has been no response from the DC office.

It is clear that there are numerous issues involved here. Quarry workers and people from the villages surrounding the quarries do have health problems, the root of which seems to be the dust generated from the quarries. The residents of the village use the PHC's whenever they have health problems and it seems that the villagers have less serious health problems than the quarry workers who live near the quarries. The quarry workers, it seems, are not aware of the hazards of working in quarries; it could also be the case that they are aware of the hazards but due to the lack of other livelihood opportunities do not have a choice but to work in the quarries.

It also seems that the quarry workers prefer private clinics; however, they were unequivocal in their response that the cases of severe silicosis were not as frequent in their population as it is believed to be. This is not to say that all is well, there are numerous respiratory problems suffered by the workers, this can be handled by mobile PHC's which can come to them rather than the workers going to the PHCs which they do not, fearing loss of a day's pay. Quarry owners can be encouraged to give protective gear such as mask to the workers as a part of their corporate social responsibility. The living conditions and hence health of the workers can also be improved by relocating their residences away from the quarries. The workers may oppose relocation as they would have to spend on their travel, this can be resolved by asking their quarry owners to ferry the workers in a truck.

5.11.2 Role of Asha workers in improving the health conditions of people

Accredited Social Health Activist (ASHA) workers work within the National Rural Health Mission, which is inspired from successes in the community health worker programs. Their role as community health workers is considered as vital in achieving the goal of increasing community participation in the health system.

As the website of the National Rural Health Mission explains, a key component is to provide every village in the country with a

Picture 5.5: Labourers carrying their children to work



trained female community health activist, which is the ASHA worker. The worker is selected from the village and is accountable to it. ASHA worker will be trained to work as an interface between the community and the public health system. Capacity building of ASHA is a continuous process; they have to undergo series of training episodes to acquire the necessary knowledge, skills and confidence for performing her well defined roles. With this knowledge and a drug-kit to deliver first-contact healthcare, every ASHA worker is expected to be a fountainhead of community participation in public health programmes in her village.

The ASHA worker is expected to be the first resort for any health related demands of deprived sections of the population, especially women and children, who find it difficult to access health services. They are also expected to create awareness on health and its social determinants, and mobilize the community towards local health planning and increased utilization and accountability of the existing health services. The worker has to counsel women on birth preparedness, importance of safe delivery, breast-feeding and complementary feeding, immunization, contraception and prevention of common infections, and care of the young child. ASHA workers are also expected to mobilize the community and facilitate them in accessing health and health related services available at the Anganwadi/sub-centre/primary health centers, such as immunization, Ante Natal Check-up (ANC), Post Natal Check-up supplementary nutrition, sanitation and other services being provided by the government.

There are 867 ASHA workers in Bengaluru Urban district and 33750 workers in Karnataka. Ideally there should be one ASHA worker for a population of 1000. Given the importance of ASHA workers one would expect the incentive structure such that ASHA workers can devote their time for such a good cause. However, interviews with ASHA workers suggested that they had no specified work hours, sometimes have to work early morning or late night. Thus they have to work anytime during the 24 hours in a day as and when the situation arises. With respect to Bengaluru Urban district it was mentioned an ASHA workers attend a maximum of 5 pregnancy cases in a year. For each delivery they have to spend 24 hrs at the hospital and are paid Rs. 200. There is no facility for them to stay at the hospital, no food, and no travel allowance or dearness allowance. Getting the signatures of doctors to obtain the incentive of Rs. 200/- is very difficult, hence getting the incentive is difficult. Once in a month, they have to record minutes of a meeting on health services for which the incentive is Rs 50/-. They also have to conduct a survey of all the households in an area once in a year, this fetches them an incentive of Rs 100/-. For attending the monthly public health committee meeting they receive an incentive of Rs 100/-. Thus an average monthly earning of an ASHA worker ranges from Rs 500 to Rs 1000.

ASHA workers mentioned that records have to be maintained using stationary, which has to be bought at personal cost. The stationary for a yearly survey, once again, has to be bought at personal cost. Bus fares to primary health centres, taluk

centres, and district hospitals are not provided; given their low earnings this is a problem in urban areas where bus fares are too high. In urban areas, given unfriendly neighborhoods, they have to use paid toilets which again reduce their earnings.

ASHA workers have mentioned in the interviews that working conditions are not good. There is no seating arrangement for ASHA workers at government hospitals. Bribe has to be paid at government hospitals to attend pregnancy cases which affect their working conditions. If the bribe is not paid doctors refuse to operate the patients, this again affects the working conditions. Lack of facilities, for example intensive care unit affects the working conditions as they have to face the ire of families. Mother card has to be obtained at a bribe which again affects their working conditions. They also do not have access to toilet facilities in urban areas, as families are less friendly and do not offer such facilities to them. ASHA workers who were interviewed felt that there is no respect for ASHA workers in government hospitals.
Having looked at the situation of ASHA workers, let us understand the health conditions of people. We will primarily focus on MMR, cases of severe anemia registered in the district, and per cent of pregnant women in Bengaluru Urban district receiving full ANC.

We have already seen that with respect to MMR there is no definite trend per se at the district level to comment on. In BBMP area, MMR has increased from 50 to 69, which dropped slightly to 66 in 2011-12. MMR in Bengaluru North has seen an increasing trend, the reasons for which need further exploration. Comparatively, performance of Bengaluru South seems to be better, though there was a peak of 49 in 2010-11. The trend in Bengaluru East after an increase has been of decline, which if it continues speaks well about the health services in the taluk. Performance of Anekal in the reported first three years clearly indicates high variation, hence it will need confirmation if the zero MMR reported has continued or it was just a flash in the pan.

It must be mentioned that there is a school of thought that feels, probably rightly so, that the MMR figures cited are underestimates since many cases are not reported. Thus for the district, which is looked up as a frontrunner in the state, the reported MMR figure give a much needed reality check to further improve the health delivery service mechanisms. Thus there is a case to boost the morale of ASHA workers in district. The case to improve the health delivery services through ASHA workers gets all the more strengthened if the numbers reported in earlier tables are underestimates.

It has been reported in numerous scholarly studies that anemia remains one of the major indirect causes of maternal mortality in India. ASHA workers are expected to increase awareness among the population on these issues.

We have already seen earlier that the per cent of women having severe anemia in Bengaluru North, BBMP, and Anekal is not insignificant. Almost a tenth of pregnant

women in Bengaluru North suffer from severe anemia. In BBMP area this per cent has hovered around 7 per cent, while in Anekal this has been consistent at 6 per cent. As a result, almost 6 per cent of the pregnant women in the district suffer from severe anemia, raising a question mark on the kind of care that is provided to them. Thus once again the role of ASHA workers comes under the scanner. Bengaluru East has shown a declining trend which indicates that there are efforts being carried out in the district to reduce this problem. Perhaps the other taluks and BBMP should learn from Bengaluru South where the per cent of pregnant women suffering from severe anemia is at tolerable levels.

This indicates that we need to understand the trend of Ante Natal Care (ANC) among pregnant women in Bengaluru Urban district. This will help us understand if there were women who did not receive ANC.

We have seen previously in this chapter that all the pregnant women registered in BBMP health centres were given full ANC, if this is true, then the cases of severe anemia that have been reported would be of mothers from nearby districts who would have come to avail the better facilities in the City. Just a fraction of the pregnant women registered in Bengaluru North have not received full ANC, once again if this is true, it indicates that cases of anemia from the adjoining districts also use the facilities available in Bengaluru North. We have already seen that the proportion of severe anemia cases in Bengaluru South was among the least, the numbers for Bengaluru South indicate either a better awareness about keeping mothers healthy or better private facilities for ANC which substitute the taluk health office's efforts. In the case of Bengaluru East more than 100 per cent indicates that mothers from adjoining districts take advantage of the better facilities provided by the taluk health office, the cases of severe anemia reported here could once again be those of the adjoining districts preferring to get treated in Bengaluru East health centres, probably because of the anonymity the City provides. The constant per cent of women receiving full ANC makes one unsure about the numbers though this is perfectly in line with the per cent of pregnant women suffering from severe anemia in Anekal taluk. Pregnant mothers from adjoining districts seem to prefer not only the better facilities provided in the district but also the anonymity the City provides.

The above depiction of the working condition and remuneration for ASHA workers, and the health outcomes in the district, makes it clear that if we are serious about improving the health condition of people who really require help, we not only need to make the remuneration of ASHA workers more attractive but also create a sense of awareness in government hospitals and among the general public about the contribution made by the ASHA workers. One can be certain that the more the society appreciates the role of ASHA workers the better the health outcomes of pregnant women.

5.12 An Overview: Performance and inadequacies of health care system

Given the huge population of Bengaluru

City, the magnitude of challenge faced by BBMP while providing the health services, compared to other taluks in the district, is the maximum. People from nearby districts also prefer Bengaluru City for its health services, this only compounds the challenge. The lacunae in health services to pregnant women and the per cent of children born under-weight are few examples where BBMP needs to improve. BBMP also needs to improve on parameters such as number doctors and nurses available per 1000 population by increasing the number of health centres as well as recruiting more doctors and nurses. Lacunae in the state health delivery system are filled up by the thriving private health care industry; this though desirable is not ideal given the high cost involved and the lack of social security in the country. Looking at the gender ratio in the district it is apparent that there is a need to increase the awareness on the importance of the girl child among the residents of the district.



6 Income, Poverty and Employment









6.1 Introduction

Households and individuals that have more resources under their control generally have enhanced capabilities. The household's income, which is determined by the employment of household members and their ownership of assets, holds the key for controlling resources. Households that do not hold resources are generally considered poor. Growth of the economy improves opportunities available and hence is an essential condition for poverty reduction. Economic growth generally reduces poverty through various outcomes that complement each other. Education has a positive impact on health, while health is necessary for education. Thus synergies involving factors are created which leads to enhancement of capabilities among individuals. For economic growth to reduce poverty on a sustainable basis, policy interventions for the enhancement of health and education are required. Education and health increase employability which leads to increase to income and reduction in poverty.

6.2 District and Taluk Income

Economic activity can be broadly separated in to three sectors: primary, secondary, and tertiary. As the economy grows it typically moves from being dominated by primary sector activities to increasing importance of activities in the secondary and tertiary sector. Table 6.1 shows the net domestic district income at constant prices for Bengaluru Urban district as per the three sectors of the economy for two years: 2004-05 and 2008-09.

Primary sector activities have reduced by value in Anekal, Bengaluru South, and Bengaluru East, while that in Bengaluru North has shown an increase of more than 10 per cent. This may be possible due to the rising quarrying activities in Bengaluru North. Activities in the secondary sector in Anekal have picked up in value by over 138 per cent while that in Bengaluru North has increased in value by 143 per cent. However, secondary activities in Bengaluru South have reduced by 40 per cent while that in Bengaluru East have decreased by 39 per cent. Overall, secondary activities for the district have increased by 48 per cent. Activities in the tertiary sector seem to have grown exceptionally across the district; activities in Anekal have grown by almost 120 per cent, while that in Bengaluru North has increased by around 67 per cent. Bengaluru East also has shown a healthy growth of 83 per cent while that in Bengaluru South comparatively has grown modestly by 30 per cent. As a result of the growth in the taluks, the tertiary activities in the district have grown by around 62 per cent. The net domestic income for the district has grown by 56 per cent with that in Anekal increasing by 112 per cent, while that in Bengaluru North increasing by 85 per cent. Net domestic income in Bengaluru East also has grown by 30 per cent while Bengaluru South is the only taluk to show a decline of 7 per cent. On the whole the district has lived up to its name, i.e. an urban district, with emphasis on secondary and tertiary sectors and lesser amount of primary sector activities.

Across Karnataka the impression is that Bengaluru Urban district is among the highest per capita income districts. This very well could be true because of

Table 6.1: Net Domestic District Income, Rs. Lakhs, at 2004-05 prices

	2004-05	2008-09	2004-05	2008-09	2004-05	2008-09	2004-05	2008-09	2004-05	2008-09
	Primary	Primary	Secondary	Secondary	Tertiary	Tertiary	Total	Total	PCI, Rs.	PCI, Rs.
Anekal	30,140	22,702	126,400	301,610	125,739	276,522	282,279	600,834	90,300	183,629
Bengaluru East	8,580	7,762	124,515	75,869	173,230	317,243	306,325	400,874	25,973	32,463
Bengaluru North	32,381	36,758	671,333	1,633,148	2,036,489	3,397,709	2,740,203	5,067,615	91,338	161,333
Bengaluru South	17,416	9,371	715,269	426,278	665,655	865,304	1,398,340	1,300,953	59,469	52,845
Total	88,518	76,594	1,637,517	2,436,905	3,001,113	4,856,778	4,727,148	7,370,277	69,076	102,865

PCI- Per Capita Income
Source: Directorate of Economics and Statistics, Government of Karnataka.

Table 6.2: Per Capita Income (Net District Domestic Product, NDDP at Current Prices) (in Rs.)

	2005-06	2010-11	Growth (%)
Bagalkote	23474.0	41516.4	76.9
Belgaum	23906.8	44180.5	84.8
Bellary	41171.0	75230.9	82.7
Bengaluru Rural	33404.6	91667.6	174.4
Bengaluru Urban	71208.1	155063.3	117.8
Bidar	16264.2	33475.9	105.8
Bijapur	18740.1	40831.6	117.9
Chamarajanagar	16820.4	32341.8	92.3
Chickballapur	--	33454.7	--
Chickmagalur	32659.5	54030.3	65.4
Chitradurga	21036.0	44797.6	113.0
Dakshina Kannada	45967.6	84305.5	83.4
Davangere	24185.7	43561.7	80.1
Dharwad	31471.7	70570.6	124.2
Gadag	22900.2	39576.4	72.8
Gulbarga	21266.0	38114.7	79.2
Hassan	21433.1	46770.8	118.2
Haveri	20626.7	33979.4	64.7
Kodagu	44701.4	85982.6	92.3
Kolar	20463.1	48026.7	134.7
Koppal	27278.4	40001.4	46.6
Mandya	19895.3	36175.3	81.8
Mysore	29565.7	58735.0	98.7
Raichur	19478.9	35613.7	82.8
Ramnagara	--	60922.1	--
Shimoga	25691.6	49745.3	93.6
Tumkur	20393.1	43060.9	111.2
Udupi	31215.3	67932.6	117.6
Uttara Kannada	25911.4	48541.0	87.3
Yadgir	--	29894.8	--
State	31238.6	62250.9	99.3

Source: Directorate of Economics and Statistics, Government of Karnataka.

numerous opportunities offered by the city which increases income and creates a multiplier effect on the economy of the district as well as that of the State. The increase in per capita income also implies that residents of Bengaluru Urban district have more resources under their control. As is well known in economics, decision making of workers is influenced by real wages while industry takes its decisions based on nominal wages. High per capita income for Bengaluru Urban district may not be necessarily good as it will increase the cost of inputs for industries. Let us look at the growth in nominal wages across districts of the State. Table 6.2 shows the nominal per capita income for the districts in the State for two years, 2005-06 and 2010-11.

The table reveals few points; first, Bengaluru Urban district has the highest per capita income for the year 2010-11. Second, Bengaluru Rural district has benefitted tremendously due to its proximity to Bengaluru Urban district, its per capita income has growing by a whopping 174 per cent, the highest across all the districts. Third, there are numerous districts that have seen a more than 100 per cent growth in their per capita income, even the per capita income at the State level has increased by almost 100 per cent. This table clearly shows that though Bengaluru Urban district is the highest in terms of per capita income its rate of growth is much slower than the rate of growth of few other districts. Thus policy makers of Bengaluru Urban district need to ponder about the slowing rate of growth of per capita income of the district.

6.3 Agriculture, Landless households, Cropping pattern, Irrigation and livestock

There are 86 gram panchayats in Bengaluru Urban district, not all households in the district own lands, and among those who do there are variations in their land holdings. Since land is an asset and gives the household command over resources, a look at the proportion of households that own land would be a good indicator to understand the income of households. Table 6.3 shows the percentage of households among the total households owning land for the year 2010-11.

As can be seen a majority i.e. 63.6 per cent of the households in district do not own land; among the taluks, 77.8 per cent of the households in Bengaluru South do not hold land while that for households in Bengaluru East is only 46.5 per cent. More than 60 per cent of the households in Anekal and Bengaluru North do not own land. Thus land for a majority of the households in the rural part of Bengaluru Urban district, is not a fall back option in a scenario where they do not find employment in other sectors. As can be seen from the table, only a minority of the households own more than 10 hectares. The reduced dependence on land is the most in Bengaluru South where only 22.2 per cent of the households own land. The ownership pattern of marginal (<1h), small (1-2 h), semi-medium (2-4h), and medium (4-10 h) sized land holdings is on similar lines in each taluk and can be seen from table 6.3.

Table 6.3: Per cent of households holding land across Bengaluru Urban district for 2010-11

	GP	% of HH<1 h	% of HH 1-2 h	% of HH 2-4 h	% of HH 4-10 h	% of HH >10 h	Total % of land owning HH	% of HH not owning land
Anekal	32	8.8	9.6	9.8	7.6	1.8	37.6	62.4
Bengaluru East	9	15.1	13.4	12.5	9.6	3.1	53.5	46.5
Bengaluru North	30	8.7	9.4	9.9	8.0	2.7	38.7	61.3
Bengaluru South	15	5.0	4.5	5.5	4.5	2.7	22.2	77.8
Total	86	8.6	8.9	9.2	7.3	2.4	36.4	63.6

Note- GP implies no.of gram panchayats, HH implies household, h implies hectare
Computations based on data sourced from Joint Director of Agriculture, Bengaluru Urban Zilla Panchayat; Census 2011, Department of Census, Government of India.

From 2000-01 to 2011-12, the net sown area of Bengaluru Urban district has reduced by 37.6 per cent pointing clearly towards further urbanization of the district. Among the principle crops, very little Paddy and Maize is grown in the district, the main crop grown is Ragi. For the year 2011-12, Ragi was sowed on 91 per cent of the 27,071 hectares used for cultivation of cereals. In the same year, pulses were sown only on 4215 hectares. Anekal, Bengaluru North, and Bengaluru South were the major contributors with almost equal contribution to the sown area in 2011-12, while the sown area in Bengaluru East was in comparison very small. Among the various means for irrigation, tanks and tube wells form the backbone of the irrigation system in Bengaluru Urban district, with tube wells accounting for more than 90 per cent of the net irrigated area. The irrigation scenario in the district has already been discussed in the district overview chapter. As per the Bengaluru Urban district at a glance, 2011-12, the total livestock population in the district as on 2007 was almost 4 lakhs of which cattle accounted for 1.3 lakhs, dogs for another 1.2 lakhs, and sheep and goats together for another 1.2 lakhs. Production of fodder, milk, eggs, wool, and meat are the other economic activities in the district associated with livestock and poultry.

The scenario of industries in Bengaluru with respect to the number of factories and the employees can be accessed from the district overview chapter.

6.4 BPL households and MGNREGA

The number of BPL card holders in Bengaluru Urban district as on December 2012 can be seen from table 6.4. We have also furnished the total number of households in each of the taluk as per Census 2011. This allows us to compute the percentage of BPL families in Bengaluru Urban district.

Only 12.7 per cent of the families in BBMP area are in the BPL category this may well be an under estimate due to the possibility of relocation within the district and reluctance in changing the address in the ration card due to the high transaction costs involved. With respect to the percentages of Bengaluru North, South, and East it is possible that the area defined by Census, and that defined by Food & Civil Supplies department may not match on a one to one basis, thus making it possible for example, for families residing in the BBMP area as per Census to be covered as per Food & Civil Supplies department under the Bengaluru North area. With respect to Anekal taluk it can be seen that almost 58 per cent of the households in the taluk are BPL, thus for the district as a whole BPL households constitute around 25 per cent of the total households in the district.

The number of households that availed the MGNREG scheme in Bengaluru urban district during the year 2011-12 can be seen from table 6.5.

Picture 6.1 A farm close to an upcoming apartment complex in Bengaluru Urban district



Picture 6.2 Non agricultural land in Bengaluru Urban district



We have already seen from table 6.3 that a minority of the households in district own land. The two pictures above also make this clear. In one picture on can see urban residential complexes close to a farmland and in the other photo one can see agricultural land which may soon become non agricultural land and construction of houses can begin. Given the trend of urbanization in the district one can safely assume that more and more households may choose the sell their farmlands. These households are more prone to the downturn in the economic cycle - if their investment decisions are not good and their skill sets are not good enough to earn them a respectable living. Given the absence of a social security net these households need to improve their skill sets to match the constantly changing urban economy.

Table 6.4: BPL ration card holders in Bengaluru Urban district as on December 2012

	BPL card holders	Total no. of households as per Census 2011	Percentage of BPL families
Anekal	74563	128132	58.2
BBMP	267968	2105894	12.7
Bengaluru East	53393	22317	239.2
Bengaluru North	123649	75881	162.9
Bengaluru South	80856	44832	180.3
District	600429	2377056	25.2

Source: Commissioner, Food and Civil Supplies Department, Bengaluru Urban Zilla Panchayat; Census 2011, Department of Census, Government of India.

Table 6.5: Households availing MGNREGS in 2011-12

	Job cards issued	HH demanding employment	HH worked	HH availing 100 days of employment
Anekal	28045	1809	1792	34
Bengaluru East	2642	87	87	0
Bengaluru North	19360	2852	2771	122
Bengaluru South	12184	53	50	0
Total	62231	4801	4700	156

Note: HH implies households
Source: Bengaluru Urban District at a Glance 2011-12, Bengaluru Urban District Zilla Panchayat

Though the highest number of job cards was issued in Anekal, the number of households demanding employment in Bengaluru North was the highest. Even among those that demanded employment in Bengaluru North only 4 per cent of the households availed 100 days of employment under the scheme. In Anekal, only 1.8 per cent of the households that demanded employment actually availed 100 days of employment. None of the households that demanded employment in Bengaluru South and East availed 100 days of employment allowed as per the scheme. This table clearly shows that people in the rural part of the district have numerous opportunities due to their proximity to Bengaluru city making MGNREGS the final fall back option. This becomes all the more clear if one compares the number of households in the district (as can be seen in the third column of table 6.4) with the number of households that have worked in the MGNREGS.

6.5 Employment and Unemployment

Table 2.9 provides a distribution of employees in the factories of the district. To recap, 7158 factories employ 459312 men and 316180 women as per the 2011-12 district at a glance. Table 6.6 that follows this section also informs us that there were 3858342 main workers and 388585 marginal workers as per Census 2011. Since

it very difficult to define unemployment in a very general way and then measure it, for the purpose of this chapter we define the unemployed as those who were registered with employment exchange as given 2011-12 district at a glance. With respect to education and skill there are numerous types of people who have registered at employment exchanges. At the district level, in the below SSLC category there were 7900 men and 943 women, in the SSLC passed category there were 9177 men and 3300 women, in the PUC passed category there were 6076 men and 2015 women, in the BA graduates category there were 1089 men and 969 women, in the BSc graduates category there were 1089 men and 907 women, in the BCom graduates category there were 1494 men and 948 women, in the stenographers category there were 898 men and 1776 women, in the ITI certificate holders category there were 24596 men and 3254 women, in the drivers category there were 5349 men, in the BEd degree category there were 698 men and 673 women, in the diplome holders category there were 7485 men and 2251 women, in the typists category there were 898 men and 1776 women, and in the others category there were 708 men and 665 women. Thus in all there were 40172 men and 9670 women who were seeking jobs appropriate to their skill levels. These figures clearly indicate that there are more men who are seeking jobs at employment exchanges than women. In the category of typists and stenographers women outnumber the men, while there no women drivers who are seeking employment at the exchange. This also raises the question as to why are there so few women drivers in our society? This is a very complex phenomenon and any attempt to answer this question is beyond the scope of this section.

When one compares the number of those employed with those who are registered at employment exchanges one gets the feeling that probably the unemployment rate in the district is not high. This could be because of the numerous opportunities the district offers for both skilled, semi-skilled, and unskilled workers.

Table 6.6: Main and marginal workers in 2001 and 2011

	Main 2001	Main 2011	Marginal 2001	Marginal 2011
Anekal	109367 (3.8)	230485 (6.0)	20699 (9.1)	26374 (6.8)
BBMP	2142453 (74.6)	3364213 (87.2)	138663 (60.9)	328181 (84.5)
Bengaluru East	--	38923 (1.0)	--	6213 (1.6)
Bengaluru North	295361 (10.3)	137405 (3.6)	38934 (17.1)	17557 (4.5)
Bengaluru South	324294 (11.3)	87316 (2.3)	29372 (12.9)	10260 (2.6)
Total	2871475	3858342	227668	388585

Note: Numbers in parentheses are per cent of individual column totals

Source: Census 2011, Department of Census, Government of India.

6.6 Main and Marginal workers

An important dimension to understand the employment scenario is through the main and marginal workers data provided by the Census. Table 6.6 shows the trend from 2001 to 2011 in main and marginal workers in the district.

From 2001 to 2011, though the number of main workers in the BBMP area has increased by a healthy 57 per cent, the number of marginal workers has increased by 136 per cent. This could be a reason for worry as this kind of employment seems to be more of the contract or casual or daily wage nature. However, this could also represent the boom in construction in the City; as a result, the demand for construction workers has also gone up. There has been a decline in the numbers for Bengaluru North and Bengaluru South; this has been mainly due the hypothetical creation of BBMP statistics in 2001, hence much should not be read into this trend. The number of main workers in Anekal has increased by an impressive 110 per cent while the number of marginal workers has increased by 27 per cent. The district as a whole shows an increasing trend in the number of main workers by 34 per cent

Table 6.7: Work participation rate in Bengaluru Urban district in per cent

	Male 2001	Male 2011	Female 2001	Female 2011
Anekal	70.6	74.8	26.4	33.1
BBMP	65.2	69.1	20.1	27.2
Bengaluru East	--	70.3	--	28.3
Bengaluru North	68.7	69.3	27.1	27.6
Bengaluru South	67.5	72.2	25.1	32.7
Total	66.0	69.5	21.6	27.7

Computations based on Census 2001 and 2011, Department of Census, Government of India.

Table 6.8: Work participation rate for SC and ST in per cent

	Population	Male	Female
SC			
Total	49.5	66.8	31.8
Rural	52.7	68.7	36.1
Urban	48.9	66.4	31.0
ST			
Total	53.1	70.6	33.9
Rural	57.5	73.4	39.8
Urban	52.3	70.1	32.9

Source: Census 2011, Department of Census, Government of India.

while the number of marginal workers has increased by 70 per cent. Even as a per cent of the total population above 7 years, the proportion of main workers for the district has increased from 41 per cent in 2001 to 46 per cent in 2011.The proportion of marginal workers to the total population above 7 years has increased from just over 3 per cent in 2001 to 4.5 per cent in 2011.

The trend with main and marginal workers among men is broadly in line with the above description. With respect to female main workers there was an increase of almost 90 per cent in the number of female main workers from 2001 to 2011 in the BBMP area. The corresponding increase in female marginal workers is an astonishing 163 per cent in the BBMP area. Though the increasing number of female main workers is a reason to cheer, the sharper increase in female marginal workers is a cause of concern, which also could be due to the boom in construction activities in Bengaluru City. The situation in Anekal comparatively seems very heartening; the number of female main workers has increased by 154 per cent, the highest across the district, while the number of female marginal workers has increase by just 19 per cent. Across the district, the overall increase in number of female main workers from 2001 to 2011 is 58 per cent while the increase in number of female marginal workers is 75 per cent. The picture of increasing female participation will be clearer after we discuss the work participation trends among females and males.

6.7 Work Participation Rate

Work participation rate is another important parameter that will help us understand the changing composition of the labour force, and hence, probably give some hints on its possible impact on human development. Table 6.7 shows the trend in male and female work participation rate from 2001 to 2011. Male work participation rate for the district has increased marginally from 66 per cent to 69.5 per cent. Among the four taluks, Anekal which had the highest rate

Chart 6.1: Work participation rate in per cent across wards of Bengaluru City

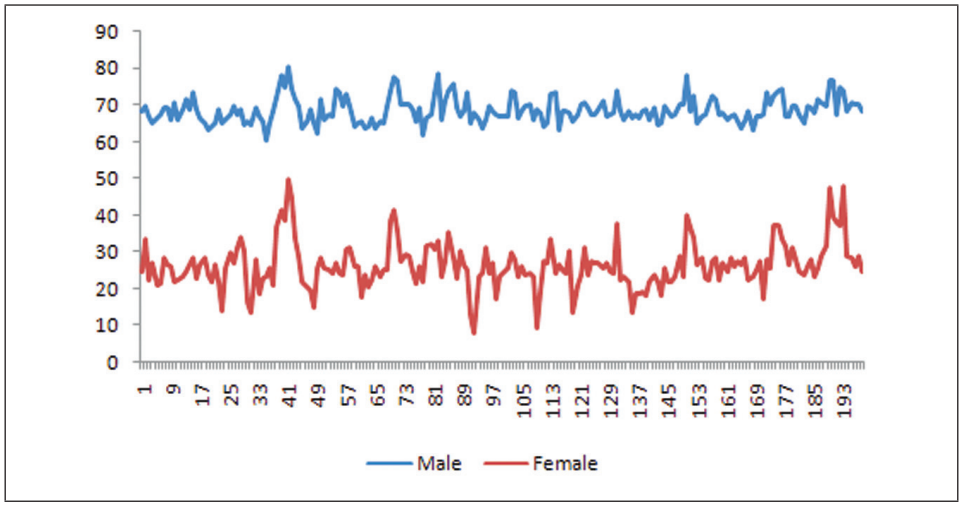
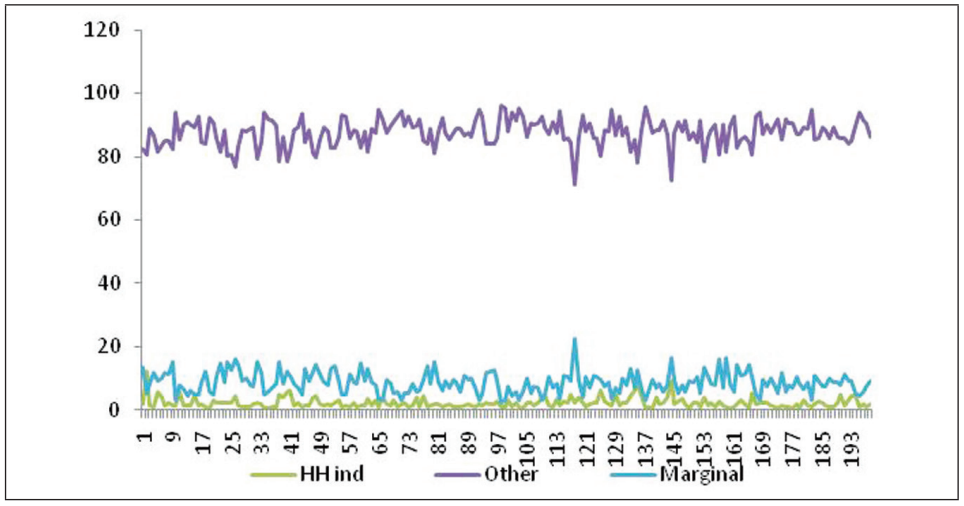


Chart based on computations on data from Census 2011, Department of Census, Government of India.

at 70.6 per cent for males in 2001 again has the highest rate for males in the district in 2011 at 74.8 per cent.

The work participation rate for males in BBMP area increased from 65.2 per cent to 69.1 per cent, which incidentally is the lowest in the district both in 2001 and 2011. With respect to Bengaluru South and North, the increase in the participation rate for males is better in South than that in North. Female work participation for the district has increased from a low of 21.6 per cent to a relatively better 27.7 per cent. Among the taluks, for 2001, the female work participation rate was the highest in Bengaluru North at 27.1 per cent followed by Anekal at 26.4 per cent; the lowest again for 2001 was BBMP at 20.1 per cent. For 2011, among the taluks, Anekal was the highest followed closely by Bengaluru South, both these taluks have shown impressive increase compared to Bengaluru North. BBMP has shown the most impressive increase to 27.2 per cent. Comparing male and female work participation, it is clear that there is enough scope for increasing female work participation which not only would increase household incomes but more importantly increase household expenditure on health and education. This is because it has been observed in research that females tend to spend a larger proportion of their income on health and education of their children.

Chart 6.2: Proportion of Other workers, Main workers in Household industries, and Marginal workers across the wards of Bengaluru City in per cent



Note: HH ind implies main workers in household industries, Other implies main other workers, and Marginal implies marginal workers.

Source: Census 2011, Department of Census, Government of India.

Table 6.9: Distribution of Occupational Pattern in Bengaluru Urban district (in per cent)

Year	Cultivators	Agriculture Labourers	Household Industries	Other Workers
2001	2.6	1.3	2.3	86.4
2011	1.9	1.8	2.1	85.0

Computations based on data from Census 2001 and 2011, Department of Census, Government of India.

With respect to social group there is information only for 2011 for SC's and ST's at the district level; hence we present the findings in table 6.8.

At 53.1 per cent ST's have a higher work participation rate than SC's which have a rate of 49.5 per cent. Another interesting point to be noted is that the total work participation rate for male SC's (66.8 per cent) is lower than the total work participation rate for males (69.5 per cent) in the district. The reverse seems to be true with respect to total work participation for female SC's (31.8 per cent) is higher than the total work participation rate for females (27.7 per cent) in the district. Total work participation rate for male and female ST's is higher than their corresponding total male and female work participation rate for the district. Overall work participation rate for male and female ST's is higher than those for male and female SC's. As can be seen from the table that both in rural and urban areas, work participation rate both for male ST's and female ST's is higher than those for male SC's and female SC's respectively. This probably also indicates that SC's in the district are better off than ST's, as a result of which they do not need to work as much as the ST's to achieve their desired standard of living.

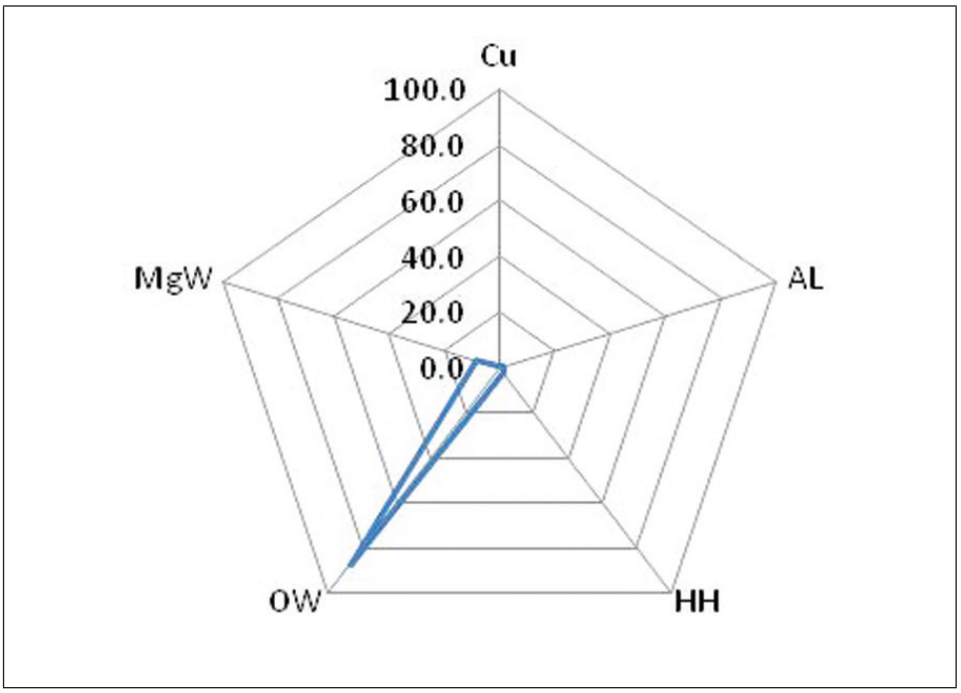
Being an urban district, work participation at the ward level is another important parameter that will give us few insights about participation trends in the labour force in various parts of the city. Chart 6.1 shows the work participation across 198 wards of Bengaluru City for the year 2011.

As can be seen work participation rates varies across various wards of Bengaluru City, there are wards where both male and female rates are high, these wards are probably those where the households industries are located. Ward number 41, for example, has the highest male work participation rate of 80.2 per cent as well as the highest female work participation rate of 50 per cent. These wards probably may have better human development parameters than other wards. There are wards where the male work participation rate is higher than the average and the female rate is lower than the average, these are probably the wards where the majority of women are homemakers. Ward number 92, for example, has a male work participation rate of 67.6 per cent (which is close to the average male work participation rate of 68.6 per cent) and the lowest female work participation rate of 8.1 per cent. Human development parameters in these wards may or may not be a bit lower than the wards mentioned above. There are wards where the male participation rate is closer to the minimum rate for males and the female participation rate in these wards is found to below the average female work participation rate, the reasons for these patterns needless to say is beyond the scope of the current study. Just because these wards have lower work participation rates it may not be wise to state these wards are likely to have human development parameters that are among the lowest across the wards of Bengaluru City.

6.8 Occupation patterns

Due to the urban nature of the district the occupational pattern will definitely tilt towards non-agricultural activities. The huge presence of information and biotechnology

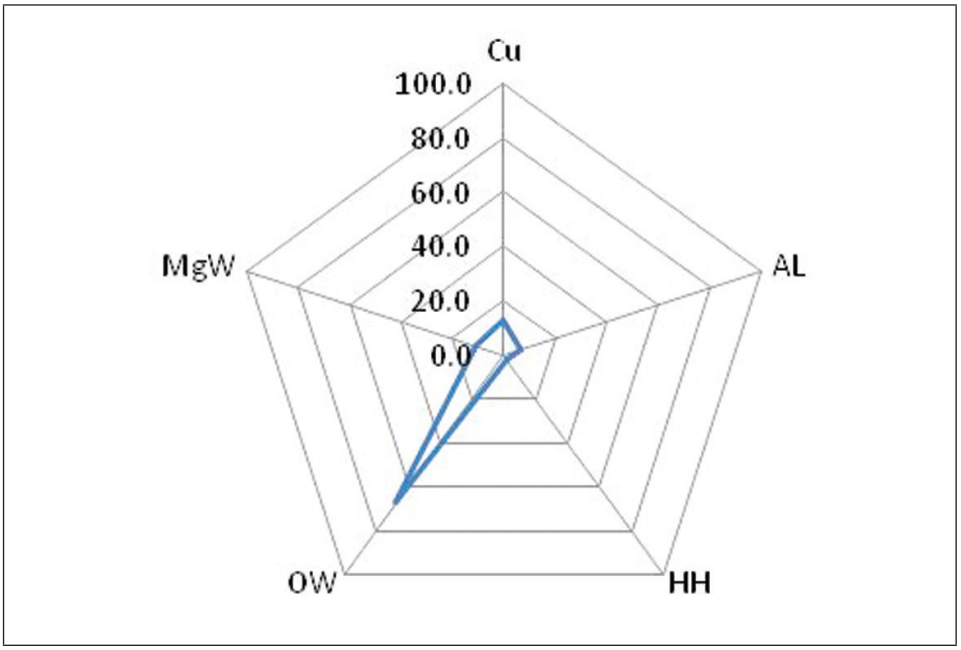
Chart 6.3: Occupational profile in BBMP as per Census 2011



Note: Cu - main cultivators, AL - main agricultural labour, HH - main household industry workers, OW - main other workers, MgW - marginal workers.

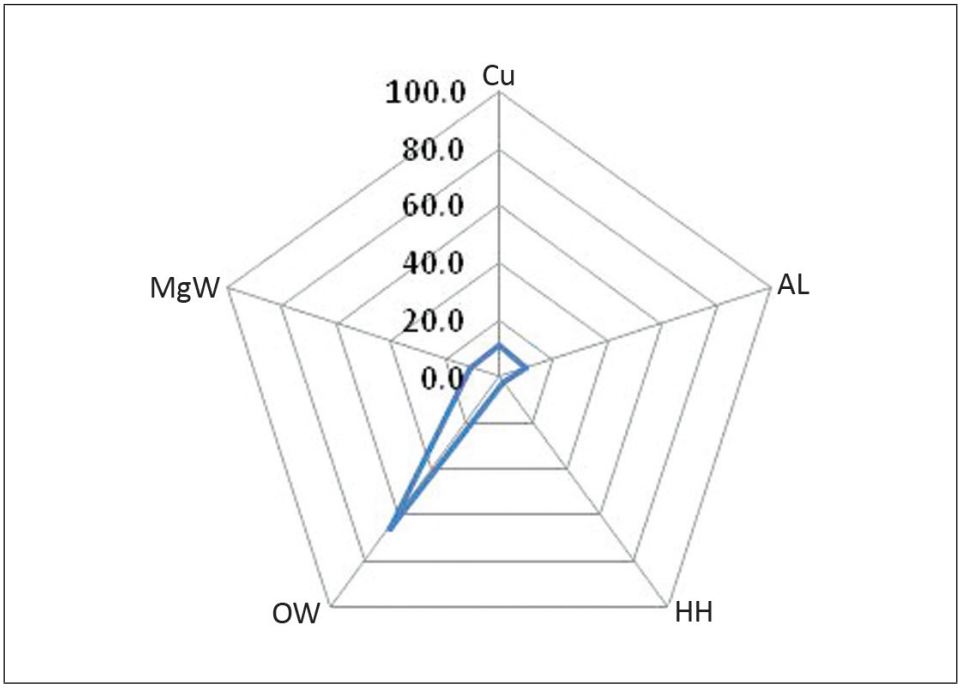
Source: Census 2011, Department of Census, Government of India.

Chart 6.4: Occupational profile in Bengaluru North as per Census 2011



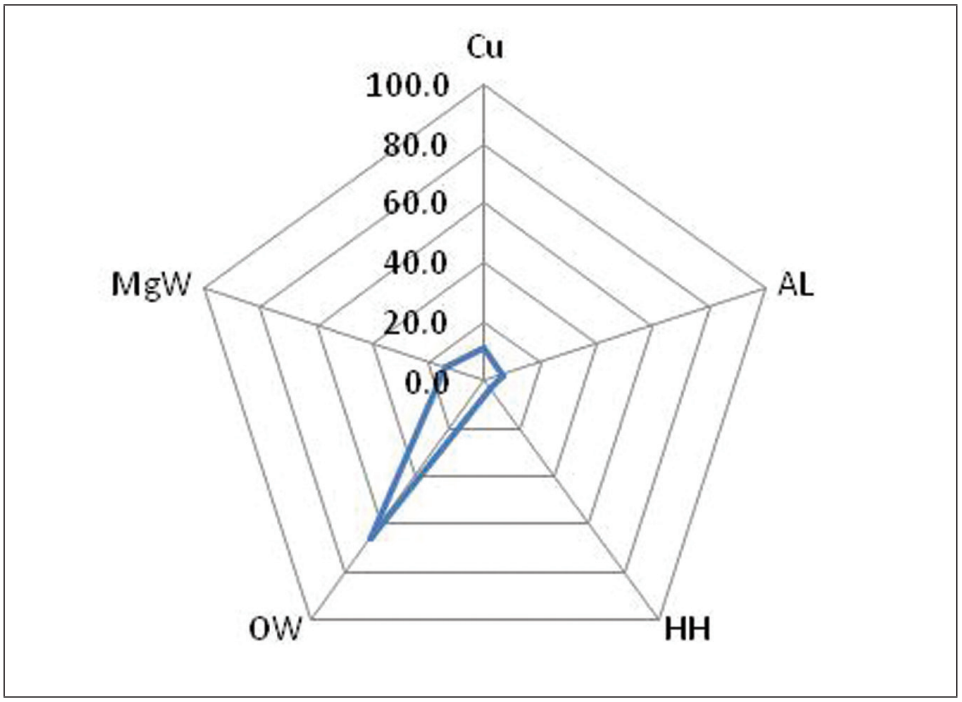
Source: Census 2011, Department of Census, Government of India.

Chart 6.5: Occupational profile in Bengaluru South as per Census 2011



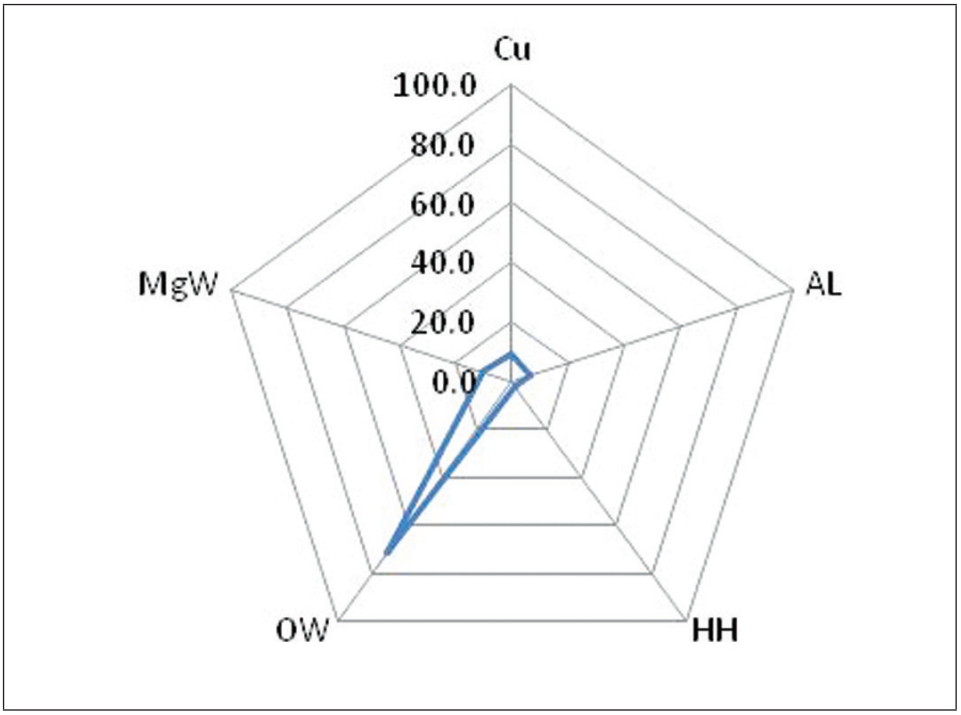
Source: Census 2011, Department of Census, Government of India.

Chart 6.6: Occupational profile in Bengaluru East as per Census 2011



Source: Census 2011, Department of Census, Government of India.

Chart 6.7: Occupational profile in Anekal as per Census 2011



Source: Census 2011, Department of Census, Government of India.

Picture 6.3: Shrine in Harlur village



industries in the district implies that a not so insignificant part of the workforce would be involved in services and manufacturing industries. Table 6.9 shows the distribution of the broad occupational pattern in the district in 2001 and 2011.

The total workforce of the district increased from 31 lakhs to 42.5 lakhs. As expected the proportion of cultivators has decreased from 2.6 per cent in 2001 to 1.9 per cent in 2011. The number of people employed in agriculture as labourers has increased from 1.3 per cent to 1.8 per cent, which given the almost double increase in absolute numbers in the workforce suggests migration of agriculture labour into the district. Similarly, there has been an increase in the number of people employed in household industries though the share of people employed has decreased marginally; this also has been the case with people employed as main other workers. The falling shares of these two categories have been compensated by the increase in the share of marginal workers from 7.3 per cent in 2001 to 9.1 per cent in 2011. Given the lack of social security the increase in the share of marginal workers is surely a reason for worry.

An analysis of the ward wise occupational pattern is necessary to select the wards where intervention is required so that all the wards in the City are on equal footing with respect to human development parameters. Since a detailed analysis may not be possible, we hint at the broad trends:

Picture 6.4: Narrow roads in Haralur village



Picture 6.5: Concrete houses in Haralur village



wards where the proportion of cultivators is among the lowest have higher proportion of main other workers, wards where the proportion of cultivators is among the highest also has a higher proportion of agricultural labourers and marginal workers. Similarly, wards which have the lowest proportion of agricultural labourers have a higher proportion of main other workers. Wards which have the highest proportion of workers in households industries have lower proportion of main other workers. The proportion of marginal workers is lowest in those wards that are among the highest in the proportion of main other workers as well as among the lowest proportions of cultivators. Conversely, the wards that have the largest proportion of marginal workers have among the lowest proportions of main other workers as well as have higher proportions of cultivators. Chart 6.2 shows the broad trends, graphically, across the wards of Bengaluru City for Other workers, main workers in household industries, and marginal workers.

6.9 Child Labour

As per a state-government sponsored study, 'A survey on child labour in Bengaluru district of Karnataka', done by the Institute for Social and Economic Change for the state government in 2012, Bengaluru Urban district has 14,980 child labourers. The number of child workers in the age group of 9-14 years in BBMP limits is 11,516, while that in Anekal is 2,550. Among these children, 11,267 are boys. Around 90 per cent are employed in hazardous jobs that include construction, garage mechanics, hotel and bar boys, butchers, scavenging,

Table 6.10: Salient features of villages included in BBMP in per cent

	SC^	ST^	Literacy rate	Main workers#	Cultivators*	Agricultural labour*	Household industries*	Other activities*
Bengaluru North	19.0	5.2	72.3	85.6	11.1	5.4	4.4	79.2
Bengaluru South	21.1	0.8	73.0	80.3	13.4	8.1	4.7	73.7

Note: ^- as a proportion to total population, # - as a proportion of total workers, *- as a proportion of main workers.

Source: Census 2001, Department of Census, Government of India

Picture 6.6: Houses in Haralur village



granite works, blacksmiths and agarbatti manufacturing. Majority of children are either from scheduled castes or tribes and that girls start working at a younger age. These children are school dropouts, mostly because they had no interest in studies. Poverty was the second most important reason, followed by parents withdrawing them from school. The study also showed that children started working not just because of poverty but family conflicts, ill-treatment by parents and harassment by teachers. One third of the children worked for more than eight hours a day and seven days a week, and with no extra wages. Over half of them earned between Rs 50-100 a day in 2012. The study also found that almost 15 per cent of the children were punished by employers; however, almost 60 per cent of them were willing to continue their jobs. It is thus clear from this study that the scourge of child labour is very much prevalent in Bengaluru Urban district.

6.10 Radar analysis for living standard

The occupational profile for BBMP, Bengaluru North, Bengaluru South, Bengaluru East, and Anekal can be seen from Chart 6.3 to Chart 6.7. BBMP has the highest proportion of Other workers and lowest proportion of main cultivators in the district. The proportion of marginal workers in BBMP area in 2011 was almost a tenth of the total workers in BBMP area in 2011.

In Bengaluru almost two-third of the workers are main Other workers, as a

proportion, the share of main cultivators and that of marginal workers is almost the same. The proportion of agricultural labourers in Bengaluru North is half of that of main cultivators in Bengaluru North.

In Bengaluru South, almost two-third of the workers are main Other workers. As a proportion, the share of main cultivators and that of marginal workers are very close to each other, while the share of main agricultural labour is also very close to that of marginal workers.

Once again, the share of main Other workers is almost two-third of the total workers. As a proportion, the share of main workers in household industries and share of marginal workers for Bengaluru East is highest in the district. A tenth of the workers in Bengaluru East are main cultivators, while the share of main agricultural labourers is just 6.4 per cent, the lowest share in the district for agricultural labourers.

The share of main Other workers in Anekal is 71.7 per cent while the share main workers in household industries is 2.4 per cent; thus three-fourth of the workforce in Anekal consists of main Other and household workers. The share of marginal workers in Anekal is 10.3 per cent; this implies that only 15.6 per cent of the labour force is employed in the agriculture with 8.8 per cent as main cultivators and the remaining 6.8 per cent as main agricultural labour.

6.11 Small Area Study

Development Strategies for the 110 villages included in BBMP

Picture 6.7: View of one part of Haralur main road



Picture 6.8: View of another part of Haralur main road



Background

We have already mentioned in the report, human development is a multi-dimensional concept. Health, education, and income are the important pillars on which human development is possible. A healthy body is a necessary and sufficient condition for anybody to succeed in life. Education not only equips one with skill but also broadens one's horizons. In today's world where we have moved to an economy that is based on fiat currency, income is the deciding factor for access to resources. Modern discourse is all about per capita income and the ways to increase per capita income through growth of the economy. It will not be farfetched to mention that perhaps development now is synonymous with increase in per capita income. BBMP was formed in 2007 merging the earlier Bengaluru Mahanagar Palike, 7 CMC's, and 110 villages in the vicinity of the City. The inclusion of the villages into the City was from a futuristic perspective, as sooner or later, the City would move till the door step of these villages; this move would help the administration to be prepared for such a scenario. This is keeping in trend of urbanization in the country where villages outside the boundaries of a City get included in it over time. However, it is well known that the process of a village getting included in the City is neither short nor a immediate process. This is because the structure of a village and that of an urban centre is different from one another, so for

Picture 6.9: View of high rises comes in the land adjoining Haralur village



them to merge into a single entity implies that one among the two loses its identity, which mostly given the Indian experience is the village. In India when a place is called as an urban centre, given the strict definition followed in the country, it implies that at least 75 per cent of the people in that place have moved out from farming activities to non-farming activities.

Occupational profile of the 110 villages in 2001

Out of the 110 villages that were merged into the City, Census 2001 gives information on 98 villages. Among these 98 villages, 1 village was from Anekal taluk, 25 villages from Bengaluru North, and 72 villages from Bengaluru South (there was no Bengaluru East in 2001). This clearly indicates that policy makers were aware that growth of the City was propelled from the southern parts of the City. As per Census 2001 figures, all the main workers in Kudlu village, which had more than 50 per cent population of SC's with a very low literacy rate of 13.8 per cent, were involved in non-agricultural activities. Table 6.10 summarizes some of salient features, as per Census 2001, of all the 25 villages from Bengaluru North as well as of all the 72 villages from Bengaluru South.

As can be seen from table 10, the SC community constituted almost a fifth of

the population of the villages in Bengaluru North and South. Comparatively, the ST population in the villages of Bengaluru South at 0.8 per cent was very low, while at 5.2 per cent the ST community was better represented in the villages of Bengaluru North. Compared to Kudlu village in Anekal taluk, the literacy rate of the villages in Bengaluru North and South was much higher, with not much difference among them. The proportion of main workers in the villages of Bengaluru North at 85.6 per cent was higher than the 80.3 per cent in the villages of Bengaluru South. This also implies that the proportion of marginal workers in the villages of Bengaluru South was higher than that in the villages of Bengaluru North. Among the main workers, 13.4 per cent of the main workers in the villages of Bengaluru South were cultivators compared to 11.1 per cent in the villages of Bengaluru North. Agricultural labour as a proportion of main workers in the villages of Bengaluru South was at 8.1 per cent, while that of Bengaluru North was 5.4 per cent. With respect to main workers in household industries, as a proportion, there is not much to say as there is very little difference in the proportion of main workers employed in the villages of Bengaluru South and North. The proportion of main workers employed in other activities in the villages of Bengaluru North at 79.2 per cent is much higher than that in the villages of Bengaluru South. It is apparent that with a significant proportion of the main workers engaged in non-agricultural activities these villages with respect to their activities were getting

Picture 6.10: Traffic through Haralur main road



Picture 6.11: Lane in Naganathapura village



urbanized. However, it is also clear from the table that while only 16.5 per cent of the main workers in the villages of Bengaluru North depended on agriculture for a living; more than a fifth of the main workers in the villages of Bengaluru South depended on agriculture for a living. Thus the inclusion of the villages in to the City would have caused some difficulties those who were engaged in the agricultural sector.

Present scenario of two villages

It would be beyond the scope of the study to delineate the present scenario in each of the 110 villages. Hence to understand the present scenario in these 110 villages, it was decided after discussion with experts, to look at the present scenario in 2 of the 110 villages. The selected two villages were Haralur (in Bengaluru East) and Naganathapura (in Bengaluru South). There are papers which argue that in villages within city boundaries though the agricultural land acquired by developers gets converted to non-agricultural land, the residential settlement of the village remains the same, i.e. narrow roads and shrines etc. This is found to be true in the case of Haralur as can be seen in picture 6.3. The narrow roads of the village can also be seen in picture 6.4. Some of the houses in this village have also transformed into two storey concrete houses, this probably highlights the prosperity in this part of the village, as well as the entrepreneurship of the people here where they might lease a part of the house for rental income. Picture 6.5 shows few such houses in the

village. Same amount of prosperity has not touched all the houses in the village as shown in picture 6.6. Picture 6.7 shows one part of the Haralur main road, which resembles a small town, while picture 6.8 shows another part of the same road with hectic construction activity. High rises that have come up in the land adjoining the village can be seen in picture 6.9, while picture 6.10 shows the heavy traffic that passes through this village.

Now let us look at the present scenario of the second village, which is Naganathapura. Pictures 6.11 to 6.16 show some aspects of the present scenario in Naganathapura village. We can see that there is not much difference in the situation in Haralur and Naganathapura, in the sense that, both still have narrow roads; people tend to dispose their garbage at street corners, this is prevalent across Bengaluru. We can see a young cow eating the garbage. The storm water drain in picture 6.14 is clogged with plastics and garbage. Some entrepreneur, probably in the village, supplies water not only to nearby areas but also to houses in the village as can be seen in picture 6.15 and picture 6.16, respectively. The high rises in picture 6.13 and 6.15, hints at the possibility of the real estate boom experienced by the villagers.

Thus the growth of the City, it seems, has helped many villages take advantage of the real estate boom as well as the increased rental market. This is particularly true of the villages in the southern part of the City; it

Picture 6.12: Garbage disposed at street corners



Picture 6.13: View of the main road passing through Naganathapura



must be also mentioned in the same breath that, with the commencement of operation of the international airport and some special economic zones in the northern part of the City, villages in the northern part of the City are also experiencing development which is similar to what the villages in the southern part have experienced. There is a high possibility that households' which had land ownership may have benefitted from the real estate and rental market boom. The agricultural labour in these villages, assuming they had no land assets, would probably have been absorbed in the construction activity as labourers. Even if there are villages where not much has changed, given the rapid growth of the City, it would just be a matter of time before all the villages experience the real estate boom, which will primarily benefit those having land assets. One of the major problems that these villages face, as highlighted by the print media, is availability of potable water. The groundwater in many of the 110 villages, it is reported, is unfit for human consumption. Thus these villages depend on the BWSSB or private tankers for their supply of water.

Economic development strategies

As mentioned initially, human development is a multi-dimensional concept. Health, education, and income are the important pillars on which human development is possible. Thus the aim of the policy maker

should be to provide opportunities for good health, education, and income for residents of the villages that have been merged in the City. Given the government facilities available for health in the City, people of the villages need only blame themselves if they are not able to utilize such excellent facilities available in the City. Given the Right to Education Act, it should be possible for the needy children from these villages to access education facilities in their vicinity. Another important aspect is the need to create awareness among the inhabitants of the villages to keep their storm water drains free from plastic and other waste. This is important as it would be beyond the capacity of even the richest municipal body in the world to eternally spend on storm water drains. Given the limited resources of BBMP, it is all the more urgent to create awareness on these issues. With respect to income, there is a need to open re-skilling centres where people (especially those who were involved as agricultural labour) from these 110 villages are encouraged to enroll so that they learn a new skill to earn their livelihood. All these efforts should on the basis of self selection, i.e. people who want to benefit from these facilities should themselves come forward. All that BBMP should do is to ensure that all the households in the villages are duly informed about these policies from which they can benefit from.

Picture 6.14: Another narrow lane in Naganathapura village



Picture 6.15: Water being supplied to nearby areas from Naganathapura village



Picture 6.16: Water supplied in private tankers to houses in Naganathapura village



6.12 Concluding Remarks

A majority of the households in district do not own land; in Bengaluru South more than three-fourths of the households do not own land. Thus the dependence on other activities for livelihood has increased. From 2001 to 2011, the share of marginal workers in the total workforce has increased from 7.3 per cent to 9.1 per cent, while the share of main cultivators, main workers in household industries, and main Other workers have decreased. One fourth of the families in the district hold BPL cards, this shows that a significant proportion of the population in the district is yet to come out of the poverty trap.

Due to the numerous opportunities provided by the City, the number of households availing 100 days of work in the rural employment guarantee scheme is very low; this indicates that they get better wages in doing other economic activities like construction. This emphasizes the need for an urban safety net so that the marginal workers have something to lean on during the downturn in the economic cycle. One can also safely conclude that there is lot of work to do in the district which hopefully will improve the income and employment opportunities for a significant proportion of the population.



7 Standard of Living













7.1 Introduction

Standard of living is an important parameter that determines as well as signals the control over resources, which is required to access food, shelter and clothing, and permit broader options such as working in meaningful, self satisfying and rewarding activities, or spending time as one intends to. Wage or income is a good indicator of standard of living; however, since income is difficult to fathom, the next best available indicator is used, which is consumer expenditure. It has been observed that people having better standard of living generally have better health. A better standard of living also enables access to better houses, housing amenities, sanitation, and other facilities, which reinforces the health of the individual.

7.2 Housing Status

Housing, one of the most important needs of a human being, is either permanent or temporary. It is not as if everybody has a house, as there exists, a not so insignificant section of population that does not have access to housing. As per Census 2011, there were almost 24 lakh households in Bengaluru Urban district of which around 23 lakh households lived in own or rented houses, the remaining 87 thousand households did not access to houses and were living in any other means. This clearly reduces the human development potential of these households. Thus there is need for Zilla Panchayat intervention here.

7.3 Site-less Households

The number of site-less households in Bengaluru Urban district as per a survey conducted in 2003 was around 40 thousand; Bengaluru North having the highest number of site-less households at around 16 thousand followed by Anekal at around 9.5 thousand households, Bengaluru East had around 5.5 thousand households while Bengaluru South had around 8 thousand site-less households. We have already seen that from 2001 to 2011 there has been a significant increase in the number of households in Bengaluru Urban district, consequently there would have been a change in the number of site-less households, since latest survey estimates are not available we cannot comment on the current situation in the district. It must be mentioned that Zilla Panchayat has been actively working on this aspect, which must be continued.

7.4 Households with pucca houses and without proper houses

Pucca houses are permanent houses and their definition can vary, we can define a pucca house as those houses that have been labeled as good houses in the Census. Table 7.1 shows the number of houses that as per the Census are good or are livable in Bengaluru City and in the district.

79.1 per cent of the houses in Bengaluru City are in good condition while 19.8 per cent of the houses in the City are in livable condition, thus as per Census 2011 only 1.1 per cent of the houses in the City are in dilapidated condition. Since Bengaluru City is a major part of the district the figures for the district are also somewhat similar. 78.1 per cent of the houses in the district are in good condition while 20.7 per cent of the

Table 7.1: Houses in Bengaluru Urban District in numbers as per Census 2011

	Total	Good	Livable
BBMP	2105894	1665934 (79.1)	416932 (19.8)
District	2377056	1856874 (78.1)	491407 (20.7)

Note: Numbers in parentheses are per cent of total. They will not add to hundred as the remaining are the houses in dilapidated condition.

Source: Census 2011, Department of Census, Government of India.

Table 7.2: Taluk wise pucca houses in Bengaluru Urban district

	Total houses	Pucca houses	Per cent of Pucca houses
Anekal	127997	110543	86.4
BBMP	2104239	1984611	94.3
Bengaluru East	22206	18926	85.2
Bengaluru North	75697	65884	87.0
Bengaluru South	44827	37964	84.7
District	2374966	2217928	93.4

Note: Total houses implies census houses used as residence and residence-cum-other use, Pucca houses implies used pucca houses. Total houses and Pucca houses are in numbers.

Source: Census 2011, Department of Census, Government of India.

houses in the district are in livable condition with only 1.2 per cent of the houses being in dilapidated condition. Assuming a five member household there are around 1.5 lakh people in the district who live in dilapidated housing and probably need help from the government.

For an understanding at the taluk level, we define a pucca house that has one of the following materials for roof: handmade tiles, machine made tiles, burnt brick, stone or slate, g.i. or metal or asbestos sheets, and concrete; and one of the following materials for wall: wood, stone not packed with mortar, stone packed with mortar, g.i. or metal or asbestos sheets, burnt brick, and concrete. Table 7.2 shows the details for each taluk.

As per this definition of pucca house, it can be seen that 94.3 per cent of the houses in the City are pucca. In Bengaluru North, 87 per cent of the houses can be classified as pucca, while that proportion in Bengaluru South is only 84.7 per cent. Among the used houses in Bengaluru East, 85.2 per cent can be classified as pucca, while 86.4 per cent of the used houses in Anekal can be called as pucca. Due to the dominance of BBMP in the district the overall per cent of pucca house in the district is 93.4. This also implies that among the used houses, 6.6 per cent of the shelters in the district are temporary in nature; the per cent of temporary shelters in Bengaluru South is the highest where 15.3 per cent of the used houses are temporary by definition. Thus households living in BBMP area seem to

Picture 7.1 Houses next to a prominent Information technology company in Bengaluru Urban district



Picture 7.2 Houses in Anekal taluk



The first picture above makes it the case for affordable housing clear. The houses abutting the famed IT campus provide stark contrast to the first world aesthetics as well as facilities these campuses have. The second picture shows pucca houses being constructed in lands that are no longer used for cultivation in Anekal taluk.

be living in much better conditions than those in other taluks of the district.

7.5 Households and asset status

Assets held by households will also serve as a good indicator to understand the income profile across the district. More the number of assets in a household imply higher command over resources and hence higher probability of better human development in that household. Table 7.3 characterizes the distribution of assets across households in the taluks.

The rural and urban parts of the district show distinct features, for example lesser proportion of people in the rural areas tend to acquire a radio compared to those in Bengaluru City. More than three quarters of households in rural areas tend to own a television while 87.4 per cent of the households in the City own a television. More than a third of the households in the City own a computer or laptop while only around one tenth of the households in rural areas own a computer. With respect to connectivity, the rural areas of the district are not very distinct from the City, for example, almost 82 per cent of the households in rural areas have access to a landline phone or mobile phone or both, the corresponding per cent for the City is 92.8 per cent. A larger proportion of households in rural areas of the district tend to own bicycle than those in the City, this seems likely due to better transportation facility in the City. As income rises people in urban areas tend to prefer their own means of transport, thus it is no surprise that 46.2 per cent of the households in the City own a two wheeler, compared to around 30 per cent of households in rural areas who own a two wheeler. Similar is the case with respect to ownership of four wheelers. 25.9 per cent of the households in the City own many assets compared to an average ownership of around 5 per cent in rural areas; while only 2.1 per cent of the households in the City do not own any asset compared to 6 per cent of households in the rural areas who do not own any asset. It must be mentioned that asset distribution households in Anekal town municipal council reflect more of Anekal taluk, however, it must be also be added that the proportion of households having no assets in Anekal town municipal council is lesser than that in Anekal taluk. If the assumption that the relationship between asset ownership and human development is proportional is not very inaccurate, then we can expect residents of Bengaluru City to have better human development than the residents of the rural taluks.

7.6 Schemes for housing facilities

The government has numerous schemes that provide housing facilities to deserving households. Below we mention few of the numerous schemes.

a) **Rural Ashraya Housing Scheme:** A state government sponsored scheme for the houseless rural poor. People desirous of being beneficiaries of this scheme need to be within the annual income limit of Rs. 11,800/-. The beneficiaries are selected by Ashraya Committees from the list of houseless persons

Table 7.3: Household assets across Bengaluru Urban district in per cent

	Radio	Television	Computer	Telephone	Bicycle	Two wheeler	Four wheeler	Many assets	No assets
Anekal	25.6	74.9	11.8	83.7	24.9	28.8	6.1	5.3	6.2
BBMP	44.0	87.4	36.0	92.8	22.5	46.2	18.9	25.9	2.1
Bengaluru East	27.4	76.0	13.7	85.3	32.8	34.7	9.0	6.7	6.0
Bengaluru North	39.7	76.9	10.5	82.9	30.6	32.0	6.2	4.9	6.1
Bengaluru South	29.8	71.8	12.1	81.6	19.7	26.3	5.0	3.7	8.4
District	42.4	85.9	33.2	91.7	22.9	44.3	17.5	23.6	2.6

Note: Computer includes laptop; Telephone includes landline, mobile phone, and both; Many assets implies households with TV, Computer/Laptop, Telephone/mobile phone and Scooter/ Car.

Source: Census 2011, Department of Census, Government of India.

identified in Grama Sabhas. The financial assistance under the program is limited to Rs.20,000/- per beneficiary. In the case of SC / ST beneficiaries, the entire assistance is provided as a grant. For others, the grant assistance is provided as a grant. For others, the grant assistance is limited to Rs.10,000/- while the balance is provided as loan assistance. The loan is repayable in 180 installments. As of 31st March 2012, as per the Bengaluru Urban District at a Glance, 14 men and 4901 women had benefitted from this scheme in Anekal. In Bengaluru North, 8 men and 4501 women had benefitted from this scheme. In Bengaluru South, 3 men and 3136 women had the benefit of this scheme. In Bengaluru East, 1998 women had benefitted from this scheme.

b) **Urban Ashraya Housing Scheme:** The state government sponsored scheme for housing for the houseless urban poor. The annual income limit here is once again Rs. 11,800/-. The beneficiaries are selected by Ashraya Committees comprising both official and nonofficial members appointed by the government. The Committees select the beneficiaries from the list of houseless persons identified by the urban local bodies. The financial assistance under the programme is limited by the urban local bodies. The financial assistance under the program envisages a beneficiary contribution of at least Rs.5,000/- . The loan is repayable in 180 installments.

c) **Dr. Ambedkar Housing Scheme:** A state government sponsored housing scheme for the SC/ST with an annual income limit for the beneficiaries of this scheme is Rs.11,800/- The beneficiaries are selected by Ashraya Committees comprising both official and non-official members appointed by the government. The Committees select the beneficiaries from the list of houseless persons identified in Gram Sabhas. The scheme is presently under implementation mainly in the rural areas only. The financial assistance under the program is limited Rs.20000/- per beneficiary, that is provided as grant. As of 31st March 2012, as per the Bengaluru Urban District at a Glance, 2 men and 815 women had benefitted from this scheme in Anekal. In Bengaluru North, 465 women had benefitted from this scheme. In Bengaluru South, 2 men and 326 women had the benefit of this scheme. In Bengaluru East, 125 women had benefitted from this scheme.

d) **Special Occupation Groups Scheme:** A state government sponsored scheme for providing housing for various economically weaker section occupational categories such as beedi workers, hamals, artisans, weavers, fisherfolk, mineworkers, etc. Central

Government has a special housing scheme for occupational groups such as beedi worker, mineworkers and weavers. The scheme for Special Occupation Groups has to take advantage of these central schemes to ensure that these schemes are implemented in the state and the central assistance is utilized to the advantage of the concerned EWS categories in the State. The state government also has special schemes for occupational groups such as Viswa beneficiaries, coir workers, leather artisans. Generally, the financial assistance proposed under the scheme is Rs.50,000/-. The grant assistance is Rs.10,000/- The loan assistance is limited to Rs.40,000/-. However, the presents for a subsidy of Rs.20,000/-. The state scheme for Viswa beneficiaries provide for a subsidy of Rs.20,000/- The state scheme for Vishwa beneficiaries provides for a subsidy of Rs.16,000/- for non-SC/ST beneficiaries and Rs 24,000/- for SC/ST beneficiaries. The loan is repayable in 120-168 installments. As of 31st March 2012, as per the Bengaluru Urban District at a Glance, with respect to houses conducted for fisher folk 35 men had benefitted from this scheme in Anekal. In Bengaluru North, 15 men had benefitted from this scheme. In Bengaluru East, 29 men had benefitted from this scheme.

e) **Rural House Sites:** A state government sponsored scheme for giving sites to the site less rural poor. The annual income limit for the beneficiaries of this scheme is Rs.11,800/-. The size of the site is 20x40. The site is given free. As of 31st March 2012, as per the Bengaluru Urban District at a Glance, 56 men and 1285 women had benefitted from this scheme in Anekal. In Bengaluru North, 191 men and 3409 women had benefitted from this scheme. In Bengaluru South, 94 men and 1557 women had the benefit of this scheme. In Bengaluru East, 15 men and 1294 women had benefitted from this scheme.

f) **Urban House Sites:** A state government sponsored scheme for giving sites to the site less ubran poor. The annual income limit for the beneficiaries of this scheme is Rs.11,800/-. The size of the site is 20x40. The site is given free.

g) **Gram Panchayat Housing Scheme:** A scheme of housing for economic weaker section in Gram Panchayat areas. Maximum financial assistance is Rs. 20,000/-, which includes loan and subsidy, loan is Rs. 10,000/-, subsidy for general category beneficiaries Rs.10,000/- and for SC / ST beneficiaries Rs. 20,000/-. The selection of beneficiaries is based on a 1995 survey of site-less persons and also of those who had their own site but were houseless was done and a list of such persons prepared. Gram panchayat through gram sabhas are expected to periodically update the list – adding those

eligible but left out hitherto and also delete the names of those who are previously in the list but are ineligible. The beneficiaries are to be selected only out of such lists prepared by gram panchayats, in the officially convened gram sabhas.

h) **Valmiki Ambedkar Awas Yojana:** A centrally sponsored programme where in housing for Urban poor (for slum families) has been considered as priority sector. This programme was launched in April 2002 to provide housing facilities to the slum dwellers.

i) **Slum improvement Scheme:** Under this scheme, providing the basic amenities like drinking water, street light, community toilet, community bathroom, underground drainage, and storm water drains. As per Government of India guidelines the per capita expenditure of Rs. 800.00 can be incurred for development works in selected slums. The Central Government has another scheme the National Slum Development Programme which also has similar contours. The Nirmala Jyoti programme of the Government of Karnataka is another one with similar characteristics. As per the Bengaluru Urban District at a Glance of 2011-2012, 7 community toilets were constructed in Anekal. In Bengaluru North, 12 community toilets were constructed. In Bengaluru South, 10 community toiltes were constructed. In Bengaluru East, 3 community toilets were constructed.

j) **Basic Service to Urban Poor:** Basic Services for the Urban Poor seeks to provide of seven entitlements - security of tenure, affordable housing, water, sanitation, health, education and social security in low income settlements' under the Jawaharlal Nehru National Urban Renewal Mission. Under this scheme the poor in the urban areas are provided housing, water supply, drainage, storm water drains, solid waste management, street lighting, community toilets and community halls. Having recognized the need to extend the provision of basic services to all strata of population the scheme propounds initiatives that would evolve sustainable programs and projects. As of December 2012, 14 BSUP projects or 19984 dwelling units were in various stages in Benglauru City. 14754 dwelling units were rehabilitation projects, 3426 dwelling units were construction projects, and 1804 dwelling units were redevelopment projects. This information is as per the Karnataka Urban Infrastructure Development Finance Corporation.

k) **Rajiv Awas Yojana:** Rajiv Awas Yojana (RAY) was launched on 02.06.2011. Under RAY, Central Assistance is extended to States that are willing to assign property rights to slum dwellers and undertake reservation of land for Economically

Table 7.4: Drinking water sources for households in Bengaluru Urban district in per cent

	Tap water treated	Tap water untreated	Covered well	Un-covered well	Hand pump	Tube well
Anekal	29.1	36.3	0.5	0.2	0.8	20.8
BBMP	69.7	8.5	0.4	0.2	0.3	13.4
Bengaluru East	26.8	29.2	0.4	0.1	0.4	26.9
Bengaluru North	27.2	35.4	0.2	0.2	0.2	25.6
Bengaluru South	29.2	28.3	0.2	0.1	0.9	29.2
District	65.0	11.5	0.4	0.2	0.3	14.6

Note: This is within premises or near and does not households that collect water away from their houses. Hence it does not add to 100.

Source: Census 2011, Department of Census, Government of India.

Weaker Sections (EWS)/Low Income Groups (LIG), earmark 25 per cent of municipal budget for basic services to the urban poor/slum-dwellers and bring in legislative amendments and policy changes to redress land and affordable housing shortages for the urban poor. Fifty per cent (50%) of the cost of provision of basic civic and social infrastructure and amenities and of housing, including rental housing and transit housing - for in-situ redevelopment in slums - is borne by the Centre. For the North Eastern and Special Category States the share of the Centre is 90%, including the cost of land acquisition, if required. Under the preparatory phase, an amount of Rs. 810.40 lakh has been approved for preparation of Slum Free City Plan of Action (SFCPoA) in 10 cities in Karnataka. Three pilot detailed project reports in three cities have also been approved with one of the pilot projects being construction of 900 houses including infrastructure at Sulikunte village, Varthur Hobli, Bengaluru City with a total project cost of Rs. 5709.62 lakh.

7.7 Drinking water

To lead a normal life, drinking water is one of the most basic and important necessity. Its importance for human development need not be elaborated upon. For households, there are numerous sources for drinking water: tap water from treated and un-treated source, covered and uncovered well, hand pump, and tube well or bore hole. Table 7.4 shows the sources of drinking water, as per Census 2011, for the households of Bengaluru Urban district.

Let us first take the case of treated tap water; the per cent of households having access is highest in the City followed by Bengaluru South, Anekal, Bengaluru North, and Bengaluru East. This is expected as treated tap water is an essential amenity in urban areas, and in the case of Bengaluru City it is the Cauvery water. With respect to tap water from untreated source, Anekal leads in the proportion of households accessing this water followed by the Bengaluru North; Bengaluru East and Bengaluru South are not way behind the leading taluks on this score. A heartening feature, if it can be called so, is that relatively lesser proportion

of households in the City access untreated tap water. Dependence on covered well and uncovered well is marginal across the district with no distinctive urban or rural features. This probably also reflects the rising value of land across the district which has made wells scarce. One, however, does not know if the lack of wells is responsible for lesser dependence on them or if the preference of district inhabitants has changed. Bengaluru South and Anekal are more dependent on hand pumps compared to the City and other taluks. Following treated or untreated tap water, tube wells or bore holes are the next important source for water across the district. As a proportion of households, Bengaluru South leads in accessing tube wells followed by Bengaluru East and Bengaluru North. Only 20.8 per cent of the households in Anekal use tube wells as a source for drinking water while only 13.4 per cent of the households in the City access bore holes as a source of drinking water. The source for tap water from untreated source, for the rural taluks and urban areas, could also be tube well, though this needs confirmation.

16.3 per cent of the households in Bengaluru East collect water away from their houses; this proportion for Anekal is 12.5 per cent. In Bengaluru South 12.1 per cent of the households collect water away from their premises, while 11.1 per cent of the households in Bengaluru North have to go away from their houses to bring drinking water for their daily use. The proportion of the households in BBMP area that have to go away from their premises to collect their water is 7.4 per cent. The number of households in the district for whom water does not arrive till their doorstep, as per Census 2011, is quite substantial at 1.9 lakhs; this implies that almost a fifth of a million households in the district have to walk some distance their houses to get their share of drinking water.

7.8 Electricity

Table 7.5 shows the access to electricity across households in Bengaluru Urban district. Access does not imply continuous and quality supply but probably that the households have been connected to the grid.

Table 7.5: Electricity access to households across Bengaluru Urban district

	Total	Households with access to electricity	Per cent
Anekal	128132	123905	96.7
BBMP	2105894	2069750	98.3
Bengaluru East	22317	21526	96.5
Bengaluru North	75881	73189	96.5
Bengaluru South	44832	42261	94.3
District	2377056	2330631	98.0

Source: Census 2011, Department of Census, Government of India.

Electricity access is widespread across the district with all the rural taluks except Bengaluru South having more than 96 per cent access. In the City 98.3 per cent of households have access to electricity, pulling up the district average to a respectable 98 per cent. However, when one looks at the same thing in absolute numbers, the picture does not seem as rosy. For example, though 98.3 per cent of the households in BBMP area have access to electricity, more than 36 thousand households in BBMP area are waiting for access to electricity. At 791, Bengaluru East has the least number of households in the district that are waiting for access to electricity. In all, as per Census 2011, there are 46,425 households in the district that have to be connected to the grid.

7.9 Traditional and Modern fuel

Traditional fuels include fire wood, crop residue, cow dung, and charcoal. Today's households not only have an option of traditional fuels but are also well served by non-traditional fuels such as kerosene, liquefied petroleum gas, piped gas, electricity, biogas, and solar power. Table 7.6 allows us to understand the proportion of households who still use traditional fuels; this is not to suggest that they have not embraced non-traditional fuels.

Unsurprisingly, a significant proportion of the households in the rural taluks still access fire wood as a source of fuel. Crop residue is another source that is still being used by a small section of households across the district. The proportion of households using cow dung is minor across the district. The proportion of households using charcoal in Bengaluru South is double the proportion in Anekal. Surprisingly, the proportion of households using charcoal in BBMP is higher the corresponding proportion in Bengaluru North and Bengaluru East. As can be seen, the proportion of households in the City using traditional fuels is not so insignificant; this probably represents the choices of the residents in the 110 odd villages in the City. Given the sky rocketing prices of petroleum, dependence on fire wood seems to be a good option, one however, does not know if the preference for firewood by households in BBMP area is due to their low incomes or by choice. In all, almost 7 per cent of the households in the district still depend on traditional fuels.

Table 7.6: Proportion of households accessing traditional fuels in per cent

	Fire-wood	Crop residue	Cow dung	Charcoal
Anekal	24.52	0.79	0.06	0.11
BBMP	3.97	0.30	0.07	0.07
Bengaluru East	25.20	0.63	0.06	0.05
Bengaluru North	27.99	0.63	0.04	0.05
Bengaluru South	28.73	0.83	0.07	0.25
District	6.51	0.35	0.07	0.07

Charcoal implies coal, lignite, and charcoal.

Source: Census 2011, Department of Census, Government of India.

The proportion of households accessing modern fuels can be seen from table 7.6a, the four modern fuels that we have presented are kerosene, LPG, electricity, and biogas. Let us start with Anekal, as per district officials Anekal is the most backward taluk in the district; we can see that numbers in table 7.6a lend some credence to this inference. Proportion of households using kerosene as a fuel is the highest in the district, while the proportion of households using LPG is the lowest in the district. Proportion of households in Anekal using electricity as a fuel is comparable to that in Bangalore North and East. The proportion of households in Anekal using biogas as a fuel is the third largest in the district. As expected proportion of households using LPG is the highest in BBMP or Bengaluru City. One would have expected the proportion of households using kerosene to be the least in the district; however, this is not the case as can be seen from table 7.6a. The usage of kerosene reflects the substantial presence of urban poor in BBMP. The proportion of households in BBMP using electricity as a fuel is comparable to that in the rural taluks, this probably has something to do with the not so regular supply of electricity in the district. It is surprising that a non-negligible proportion of households in BBMP use biogas. The proportion of households in Bengaluru East accessing kerosene is the second highest in the district, higher than that of Bengaluru North and South. With respect to proportion of households accessing LPG, the proportion in Bengaluru North is higher than that in Bengaluru East and South. Bengaluru South has the highest proportion of households accessing electricity as a fuel, the reasons for this preference is not very clear at this moment. Bengaluru North has

Table 7.6a: Proportion of households accessing modern fuels in per cent

	Kerosene	LPG	Electricity	Biogas
Anekal	21.3	50.9	0.1	1.4
BBMP	15.7	78.2	0.2	0.8
Bengaluru East	17.7	53.9	0.1	1.2
Bengaluru North	13.9	54.4	0.1	2.2
Bengaluru South	15.4	51.8	0.3	1.5
District	15.9	75.3	0.2	0.9

Note: LPG implies liquefied petroleum gas
Source: Census 2011, Department of Census, Government of India.

Table 7.7: Households with latrine within premises across Bengaluru Urban district

	Total	Latrine within premises	Per cent
Anekal	128132	101447	79.2
BBMP	2105894	2039188	96.8
Bengaluru East	22317	18154	81.3
Bengaluru North	75881	62024	81.7
Bengaluru South	44832	33786	75.4
District	2377056	2254599	94.8

Source: Census 2011, Department of Census, Government of India.

the highest proportion of households using biogas; this clearly indicates that among the rural taluks Bengaluru North has more preference for gas based modern fuels.

7.10 Sanitation

Sanitation is deeply connected with human development as it is another important determinant for health of the society. In a modern society, sanitation provides the basis for a healthy and hygienic life. It is generally assumed that access to toilet facilities within the home provides privacy, dignity, and a sense of security to family members, especially the female members. However, rural practices in the country tend to portray a different picture. There are numerous anecdotes where rural people tend to prefer open defecation despite numerous incentives given by the government. This emphasizes the point that mere provisioning of such facilities or incentives to create such facilities is not enough. Unless people's practices and beliefs are changed, achieving better sanitation practices and superior health outcomes will become difficult. A bane of urban areas in the country has been that in most of the urban areas pipes carrying treated water come into contact drains carrying sewage creating bad hygiene especially in cases where the pipes develop cracks and allow the sewage to flow mix with treated water. Table 7.7 shows the number of households across the district that have latrine within their premises.

The proportion of households that have a latrine within premises is the least in Bengaluru South. At 79.2 per cent the proportion of households having latrine within premises in Anekal is lower than that in Bengaluru East and Bengaluru North. 3.2 per cent of households in Bengaluru City do not have latrine within premises, which by any extent is not a magnitude that can be brushed under the carpet, especially as the area is primarily urban and can quickly lead to unhygienic conditions. Table 7.8 shows the actual number of households that use public latrines and those that use open spaces.

The number of households using public latrines or open spaces is almost equal in Bengaluru City, together constituting

Table 7.8: Households using public latrines and open spaces

	Total	Public latrine	Open
Anekal	128132	2638	24047
BBMP	2105894	32635	34071
Bengaluru East	22317	244	3919
Bengaluru North	75881	695	13162
Bengaluru South	44832	849	10197
District	2377056	37061	85396

Source: Census 2011, Department of Census, Government of India.

Table 7.9: Salient features of Devarajeevanahalli in per cent

	SC^	ST^	Literacy rate	Main workers#	Cultivators*	Agricultural labour*	Household industries*	Other activities*
2001	17.4	0.2	65.6	93.7	0.3	0.3	4.1	95.2
2011	18.9	1.1	80.2	86.7	0.5	2.1	4.8	92.6

Note: ^- as a proportion to total population, # - as a proportion of total workers, *- as a proportion of main workers.

Source: Census 2001 and 2011, Department of Census, Government of India

around 3.2 per cent of the total households in Bengaluru City. With respect to the rural taluks it can be seen that the number of households using public latrines is much lower than the number of households using open spaces, this clearly hints that households prefer open spaces more than public latrines. Thus our emphasis that mere provisioning of facilities may not be enough and people need to be made more aware about the health outcomes of better sanitation practices and the disadvantages of the lack of it.

7.11 Small Area Study

Development Strategies for Devarajeevanahalli

Background

Devarajeevanhalli is a settlement located between Tannery road and Sultanpalya that is in the northern part of the City. This is a settlement of low income families and has several declared and un-declared slums. With respect to wards of BBMP, this area is covered under ward number 47 and 48. Let us first look at the salient features of ward 47 (Devarajeevanahalli) and 48 (Muneshwara Nagar) from Census 2011. Devarajeevanahalli was ward number 93 in 2001. There was no Muneshwara Nagar ward in the 2001 Census. Table 7.9 shows the salient features of Devarajeevanahalli from Census 2011 and Census 2001.

The total population of ward number 47 and 48 as per Census 2011 was 77949 compared to the 51578 population of ward 93 as per Census 2001, a rise of more than 51 per cent in population. The sex ratio in 2001 was 931 while that in 2011 was 940. The sex ratio for the population under 6 has increased from 922 in 2001 to 933 in 2011. This indicates increased awareness among the families in the area on the importance of the girl child. The proportion of SCs and STs in the area has increased, with the rate of increase in the number of STs being more rapid. The literacy rate in 2011, though with room for improvement, is better compared to that in 2001. A worrying feature is the decrease in the proportion of main workers from 93.7 per cent in 2001 to 86.7 per cent in 2011. The reason behind the reduction could be voluntary or structural; either ways the challenge is to increase the proportion of main workers. The proportion of main workers involved in household industries has increased slightly from 4.1 per cent in 2001 to 4.8 per cent in 2011. It can be seen from table 5 that

the proportion of main workers involved in other activities has reduced from 95.2 per cent in 2001 to 92.6 per cent in 2011. The proportion of main workers involved as agricultural labour has increased from 0.3 per cent in 2001 to 2.1 per cent in 2011; this seems counterintuitive and hence requires further probing to understand the reasons behind the increase.

Issues in Devarajeevanahalli

As per a report of public hearing held at Devarajeevanahalli on 12th December 2013, the area has a population of about 1 lakh. We have already mentioned that as per Census 2011 the population of the area is 77949, the difference of 28.2 per cent with respect to the Census 2011 estimate is not small to be ignored. If the Census estimates are on the lower side then it also implies that the drop in proportion of main workers could be steeper, increasing the challenge for policy makers. Another issue is an open drain that flows through the area in which residents dump their garbage as there is very limited garbage collection in the area. As a result, when it rains the drain overflows into numerous low lying houses. This increases the health problems for the residents of the area, especially children and elders. Given the unhygienic conditions of the area, residents of the area also have to struggle to get their supply of potable water, have to walk quite a distance to get their supply of water or have to buy water in pots. Reports in popular press mention that illiteracy is high in the area, which is not the situation as per Census data.

Important reasons for slums to come up in a City are improper policies and governance, corruption, inappropriate regulation, dysfunctional land markets, unresponsive financial systems, and a fundamental lack of political will. Each of these failures adds to the cost extracted from people who are already poor and thus constrains the potential for human development that urban life offers to these people. These slums need to be given access to basic services such as-water, sanitation, waste collection, storm drainage, street lighting, paved footpaths, and community toilets. With growth of the City, unplanned growth of slums makes conventional service provision complicated. In the public hearing mentioned above many residents of the area came to air their grievances. These included lack of doctors and other staff at government maternity home and care centres; problems in getting birth certificates; lack of proper care of pregnant mothers at government facilities during delivery as well as after delivery, which increases expenditure of the low income families pushing them into debt. The number of anganwadis available in the area was insufficient which resulted in many children not benefiting from services and the schemes available at the anganwadis.

Economic development strategies

The lack of basic hygiene in the area has led to numerous health issues. The first strategy should be to build a sewage network or strengthen the existing sewage network for the area. The feasibility of providing toilets in every household should be considered once sufficient number of community toilets is built. The existing system of garbage collection should be

revamped by encouraging local people to participate in the process; this should be coupled with efforts to increase awareness on proper disposal of garbage, and the disadvantage of throwing their garbage close to their homes. Once the sewage connections are in place then the focus should be on building storm water drains, once again, people in the area should be made aware that the storm water drains are neither for garbage disposal nor meant to carry sewage.

Given the high density of these settlements as well as the low income of its inhabitants the health services delivery mechanism in the area need to be strengthened. Periodic inspections at the health centres would also help to achieve the desired result of providing health services to the needy. Basic facilities can be provided in the area, residents who require advanced treatment can be ferried free of cost to bigger government hospitals. The number of anganwadis in the area also needs to be increased (As one understands from the report on the public hearing, this action already seems to be in process). Once again frequent inspection will help the government in succeeding in its mission of providing adequate nutrition to malnourished children.

Water is a basic necessity and we need not emphasize it importance for our health. Since these are dense settlements where supply of piped water may not be easy, water can be supplied to them in tankers. The arrival of the tankers can be announced such that all the residents get time to prepare for it. A tanker can be sent for a group of houses such that all the households in the settlement can be provided with water at their doorstep. Once the households get assured of water at their doorstep, a nominal fee may be collected and the service can be strengthened.

We have already seen that as per Census 2011 the proportion of marginal workers in the area has increased, this implies the need to establish government centres that will skill people so that they can earn their living. These centres can welcome not only the marginal workers but anybody who would be interested in learning a livelihood earning skill. These centres can function at hours which are suitable to the daily wage earners, so that they do not miss their work and are also able to earn their daily wage. Awareness need to be created about these centres, once there is sufficient awareness the process can be of self selection. This will not only reduce the social tensions created but also give an opportunity to these workers to move up the income ladder. Once the daily wage earners get better livelihood they will start aspiring for better and hygienic living conditions. As soon as the group of people aspiring for better living conditions reaches a critical mass, the option of relocation to an area with better facilities can be offered to them.

7.12 Concluding Remarks

As per Census 2011, around 87 thousand households in the district do not have access to houses and were living in any other means. Even among those households who live in houses there are around 1.5 lakh people in the district who live in dilapidated housing and

probably need help from the government. Households in the rural and urban part of the district show different features with respect to the assets they own. For example, a larger proportion of households in rural areas of the district tend to own bicycle than those in the City, this seems likely due to better transportation facility in the City. The proportion of households owning no assets is much lesser in the City compared to that of rural areas. There are almost a million people in the district who have to walk quite a bit from their homes to get their daily share of drinking water. 3.2 per cent of households in Bengaluru City do not have latrine within premises, which by any extent is not a magnitude that can be brushed under the carpet, especially as the area is primarily urban and can quickly lead to unhygienic conditions. Given the preference in rural taluks of using open spaces as toilets, policy emphasis on provisioning of facilities may not be enough and people need to be made more aware about the health outcomes of better sanitation practices and the disadvantages of the lack of it. This clearly shows that more efforts are needed to improve the standard of living of these people.

8 Gender and Development



8.1 Introduction

As a concept human development broadly refers to income, health, and education outcomes. It can be seen that these three parameters influence each other, depending on where one starts, income influences health which affect both education as well as health. Education once again influences both income as well as health. The Karnataka Human Development report of 2005 identifies 'Gender' as a specific set of cultural characteristics that identify the social behavior of women and men and the relationship between them. Thus, gender, refers not simply to women or men, but to the relationship between them, and the way it is socially constructed. Because it is a relational term, gender must include women and men. Like the concepts of class, race and ethnicity, gender is an analytical tool for understanding social processes. Traditionally or probably from the time of the cave inhabitants, in many of the societies, men had the task of hunting the meal while women would cook and take care of the children. This traditional mindset ensured that women had fewer opportunities to contribute to the overall development of society and thus not allowing them to follow their aspirations. This may have worked in times of joint families, which more or less is a rural phenomenon. However, given today's increasing presence of nuclear families especially in urban areas, it is imperative that women are made equal partners in the development initiative. This implies that they are given education which not only enables them to have better health but also will help to earn better income. This hopefully will give a much needed strong push which will support the all round development of the society.

8.2 Gender Differentials in the District

For any patriarchal society to move towards greater gender equality, as part of a process of human development, requires change at many levels – in values and norms, in structures and institutions, and in behavior and practices. A first step in the direction of better gender equality is encouraging the birth of the girl child, which is something in which the country

Table 8.1: Sex ratio in Bengaluru Urban district

	Overall 2001	Overall 2011	Child 2001	Child 2011
Anekal	883	835	945	967
Bengaluru City	908	923	942	942
Bengaluru East	--	911	--	976
Bengaluru North	937	895	960	943
Bengaluru South	910	879	954	928
District	908	916	943	944

Note: Child implies children between 0 to 6 years.

Source: Department of Census, Government of India

as a whole lags behind in the comity of nations. This not to say that all communities in the State of Karnataka do not prefer the girl child, there are communities in the State where the gender or sex ratio is comparable to that of the developed nations. The gender or sex ratio of the society can give us some insights if the entrenched patriarchal discourse is in favor of changing towards one that is inclusive and gender-friendly. To begin with, the most important parameter to understand with respect to gender issues will be gender or sex ratio of the district. Table 8.1 shows the overall and child gender or sex ratio for Bengaluru Urban district in 2001 and 2011.

Sex ratio for the district has increased from 908 to 916; this increase has been primarily driven by the increase in Bengaluru City from 908 to 923. This clearly indicates that residents of Bengaluru City understand the importance of the girl child. Among the four taluks, Bengaluru North has shown a sharp drop in the ratio from 937 in 2001 to 895 in 2011. The drop in the sex ratio in Anekal has been drastic from 883 in 2001 to 835 in 2011, while the drop in Bengaluru South is equally drastic from 910 in 2001 to 879 in 2011. This is clearly worrying as an unbalanced taluk in terms of sex ratio may lead to serious consequences. With respect to Bengaluru North and South it is quite possible the progressive gram panchayats of 2001 may have become a part of Bengaluru City in 2007 as a result of which what is being reflected is the state of the gram panchayats that may have lagged in 2001. Thus it would be wise to wait for the figures of 2021 to comment more on this phenomenon. The drop in Anekal is something that needs to be understood better and clearly calls for action from policy makers on this front.

Let us examine if this skewed ratio exists even with respect to children in the age group of 0-6 years. It can be seen that the sex ratio in the age group of 0-6 years for the district has marginally increased from 943 in 2001 to 944 in 2011; this is primarily due to the increase of the same in Anekal while that of Bengaluru City has remained the same during this period. The increase in Anekal is notable and shows that residents of this taluk have begun realizing the importance of the girl child. Bengaluru South and North have shown a decline with the South experiencing a sharper fall than that in the North; the reason we stated above for these taluks may also well be applicable here.

The figures clearly point out to a very gradual or probably reluctant shift in the number of females in the district which once again highlights the importance of creating awareness through public debate and discussion, and other channels of communication including the media.

8.3 Patterns of Literacy and Enrolment

Literacy is a tool that not only empowers the person but also adds value to her/his life and thus playing a crucial role to her/his development. At the macro level, in modern times, a literate society has a higher human development capability than a less literate society. The strong correlation between lack of literacy and poverty has

Table 8.2: Male and Female literacy trends in Bengaluru Urban district

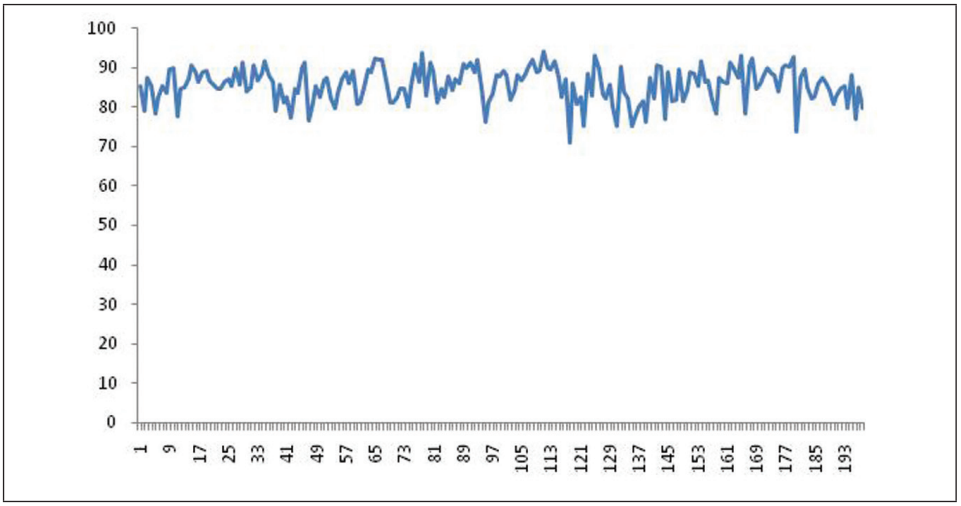
	Males 2001	Female 2001	Males 2011	Female 2011
Anekal	79.2	60.7	86.2	73.8
Bengaluru City	88.8	79.3	91.7	85.4
Bengaluru East	--	--	85.7	72.3
Bengaluru North	86.4	72.4	86.8	74.0
Bengaluru South	85.8	73.0	84.5	71.3
District	87.9	77.2	91.0	84.0

Source: Department of Census, Government of India

been well established. A literate person does not experience the deprivation of capabilities or lack of economic opportunities experience by somebody who is not literate; this is assuming that they are skilled to same level. A literate person generally will be more aware and better informed than somebody who is not literate. Living in the information age where information is wealth, literacy provides more opportunities to an individual to improve her/his standard of living. Female literacy, in particular, is of vital importance for the future of the nation, as we know that the child's health is crucially linked to the mother's literacy. Table 8.2 shows the male and female literacy trends in the district.

The difference in male and female literacy rate has come down from 10.7 per cent in 2001 to 7 per cent in 2011. Female literacy rate which was 77.2 per cent in 2001 has increased to 84 per cent in 2011, while male literacy rate in the same period has increased from 87.9 per cent to 91 per cent. Thus at the district level, female literacy rate is catching up with the male literacy rate. This shows the increasing realization of residents of the district of the importance of literacy especially for females. With respect to female literacy rate, Anekal has shown the highest increase from 60.7 per cent in 2001 to 73.8 per cent in 2011, while Bengaluru South has shown a slight decline from 73 per cent to 71.3 per cent. The increasing female literacy in Anekal implies slow but sure changes in the attitudes of the residents; this coupled with increased gender ratio in the 0-6 years category hints that probably residents of Anekal taluk have realized the importance of these aspects. The inclusion of gram panchayats from Bengaluru South into Bengaluru City makes it difficult for us to predict the actual reason for the decline, however, the reason given above also remains valid. Female literacy rates in Bengaluru City and Bengaluru North have shown an increase during the same period. This increase needs to be sustained and the quantum of increase also needs to be higher. From 79.2 per cent in 2001 to 86.2 per cent in 2011, the highest increase in the male literacy rate is once again in Anekal. Male literacy rate in Bengaluru North has increased marginally from 86.4 per cent in 2001 to 86.8 per cent while that in the City has slightly increased from 88.8 per cent in 2001 to 91.7 per cent in 2011.

Chart 8.1: Female literacy in per cent across ward of Bengaluru City in 2011



Source: Department of Censu`s, Government of India

As in the case of females, the male literacy rate of Bengaluru South also has shown a slight decline from 85.8 per cent in 2001 to 84.5 per cent in 2011. Thus compared to the urban parts, the rural parts of the district have some way to go with respect to the literacy levels among females. Compared to the male literacy rate, the relatively lower female literacy rate in Bengaluru Urban district probably is a manifestation of the gender bias, which refuses to acknowledge women's inherent right to education. However, given the urban nature of the district, the other sources of inequity namely caste, class and geographical factors that shape female literacy levels; seem to have worked in favor of female literacy rate in the district when compared with female literacy rate in other districts across the state.

It would be interesting to note if the female literacy patterns at the ward level in Bengaluru City is different from the other sub-districts. Chart 8.1 gives some flavor of female literacy at the ward level of Bengaluru City for the year 2011.

Ward number 118, Sudhama nagar in BBMP has a female literacy level of 71.1 per cent which is below the female literacy level of Bengaluru South taluk. Ward number 111, which is Shantala nagar has the highest female literacy across the district at 94.1 per cent. There are 61 wards in Bengaluru City that have female literacy levels less than the district average of 84 per cent, which seems to be a reason for concern. The huge workforce of the garment industry, those households that provide housekeeping services, and those that trade in fruits and vegetables may be the reason for the lower literacy levels in urban wards. This clearly shows that with respect to female literacy there is lot of work to be done not only in other sub-districts but also in Bengaluru City.

Table 8.3 shows the enrolment of girls across schools in the district for the year 2012-13. This has been shown across various types of schools for classes 1 to 12. The table shows the number of girls entering the school for every 100

Table 8.3: Girls enrolment in per cent for classes from 1 to 12

Block	Schools	Enrolment	Block	Schools	Enrolment
North	All	48.8	**South**	All	48.6
North	DoE	50.9	**South**	DoE	51.4
North	T/SWD	36.1	**South**	T/SWD	51.0
North	LB	63.5	**South**	LB	50.0
North	PA	52.9	**South**	PA	53.1
North	PU	47.5	**South**	PU	47.2
North	CG	48.3	**South**	CG	49.5
District	All	48.7			

Note: All is All schools, DoE is Department of Education, T/SWD is Tribal/Social Welfare Department, LB is Local Body, PA is Private Aided, PU is Private Unaided, CG is Central Government. Block implies educational block.

Source: Sarva Shikshana Abhiyan, Karnataka, 2012-13.

admissions into the school. This is for the year 2012-13.

Table 8.3 indicates the number of girls enrolled for every new 100 students in the school. The trends in enrolment of girl students in Bengaluru North block and that in Bengaluru South block cannot be said to be similar. In Bengaluru North, parents prefer sending their girl child first to local body schools, followed by private aided schools and then by department of education schools. For girl children in Bengaluru North, parents seem to prefer central government as well as private unaided schools equally. Tribal or social welfare department schools seem to have the least preference with respect to parents of girl children in Bengaluru North. While sending their girl children to school, parents in Bengaluru South seem to have different preferences of schools than their Bengaluru North counterparts. Private aided schools lead the preference in Bengaluru South, followed closely by department of education schools, and tribal or social welfare department schools. As can be seen from the table, parents in Bengaluru South prefer local body schools over central government and private unaided schools. Given the sex ratio among children in the district and the overall enrollment rate of 48.7 for girls in the district, it seems that almost all parents now send their girl child to school, which in itself is an achievement.

8.4 Work participation trends

It has been shown by research that women tend to spend a major portion of their income on health and education, thus a better work participation rate for women implies better human development outcomes. Table 8.4 shows the work participation rate among women of the district for the years 2001 and 2011.

The female work participation for the district has increased from 21.6 per cent in 2001 to 27.7 per cent in 2011. Among the sub-districts, Bengaluru South has shown the maximum increase from 25.1 per cent in 2001 to 32.7 per cent in 2011. The increase in the female work participation rate of Bengaluru City as well as that of Anekal has also been impressive.

Table 8.4: Female work participation rate in per cent

	2001	2011
Anekal	26.4	33.1
BBMP	20.1	27.3
Bengaluru East	--	28.3
Bengaluru North	27.1	27.6
Bengaluru South	25.1	32.7
Total	21.6	27.7

Computations based on Census 2001 and 2011, Department of Census, Government of India.

Table 8.5: Female main and marginal workers in 2001 and 2011 for Bengaluru Urban district

	Female workers		Main female workers		Marginal female workers	
	2001	*2011*	*2001*	*2011*	*2001*	*2011*
Anekal	32,024	68,388	22,371	56,857	9,653	11,531
BBMP	497,670	983,004	444,151	841,940	53,519	141,064
Bengaluru East	--	12,008	--	9,258	--	2,750
Bengaluru North	85,497	40,546	66,381	33,040	19,116	7,506
Bengaluru South	87,579	27,620	74,807	23,294	12,772	4,326
Total	702,770	1,131,566	607,710	964,389	95,060	167,177

Note- All figures in numbers.

Source: Census 2001 and 2011, Department of Census, Government of India.

Bengaluru North is the only sub district that has failed to register similar increase in female work participation rate. This increase in work participation rates may primarily be due to changing social norms and increasing opportunities in the district. The after effects of the increase in work participation rate for women will better and more profound if the addition has been with respect to main rather than marginal workers.

At the ward level in Bengaluru City, the maximum female work participation rate is 50 per cent in ward number 41, which is Peenya Industrial estate. At 8.1 per cent, the minimum female work participation rate in Bengaluru City (probably among the lowest in the district) is in ward number 92 which is Shivaji nagar located in the heart of the city. It is well known that Shivaji nagar is the residence of the older inhabitants of the City, who are probably better off than the recent migrants who work in Peenya and reside in nearby areas. There are 131 wards in the city where women work participation is lesser than the district average of 27.7 per cent, once again hinting that contribution of women in the City to the net domestic product of the district leaves much to be desired. However, the reasons for the low work participation rate among females in the wards of Bengaluru City probably need a separate study.

Table 8.5 helps us understand the trend in the increase of main and marginal female workforce for Bengaluru Urban district.

From 2001 to 2011, though there has been an all round increase for the district in the number of female workers both main and marginal; as a proportion of workforce the share of female main workers has decreased for the district as a whole from 86.5 per cent to 85.2 per cent which implies that share of female marginal workforce has increased from 13.5 per cent to 14.8 per cent. The district trend has primarily been the result of the fall in the share of female main workers and the increase in the share of female marginal workers in Bengaluru City. The trend in Anekal, however, has been in the desirable direction; the share of female main workers in Anekal has increased from 69.9 per cent in 2001 to 83.1 per cent in 2011 as a result the share of female marginal workers in Anekal has decreased from 30.1 per cent in 2001 to 16.9 per cent.

With respect to the absolute number female main workers there was an increase of almost 90 per cent in the number of female main workers from 2001 to 2011 in the Bengaluru City/BBMP area. The corresponding increase in female marginal workers is an astonishing 163 per cent in the Bengaluru City/BBMP area. Though the increasing number of female main workers is a reason to cheer, the sharper increase in female marginal workers is a cause for concern. This could be due the sharp increase in construction activities in the City. The situation in Anekal comparatively seems very heartening; the number of female main workers has increased by 154 per cent, the highest across the district, while the number of female marginal workers has increase by just 19 per cent. This clearly tells us that in Anekal more and more women are getting employed on a regular basis. Across the district, the overall increase in the absolute number of female main workers from 2001 to 2011 is 58 per cent while the increase in the absolute number of female marginal workers is 75 per cent. It is thus clear that though there is increasing female participation in the labour force, the increase is more in the form of marginal female workers, which is not a desirable outcome given the lack of social security in the country.

The trend with respect to main and marginal female workers across the wards of Bengaluru City is the following: 97 of the 198 wards in the city, in terms of proportion, have lesser share than the average share of main female workers for the City (85.5 per cent), this also implies that in these 97 wards, in terms of proportion, the share of marginal female workers in more than the average share marginal female workers for the City (14.5 per cent). Factors responsible for a higher share of marginal female workers in these 97 wards need separate attention, which will be a separate study. At 95.4 per cent, ward number 182 i.e. Padmanabha Nagar has the highest share of main female workers, while at 64.1 per cent ward number 118 i.e. Sudhama Nagar has the lowest share of main female workers. We have already noticed that Sudhama Nagar has the lowest female literacy level among the 198 wards of Bengaluru City. Thus with respect

to wards in Bengaluru City there seems to be correlation between literacy levels and type of work participation.

8.5 Trends in political participation of women in Panchayat Raj setup

Bengaluru Urban district has Gram Panchayats, Taluk Panchayats, Urban Local Bodies in Bengaluru City as well as Anekal, and Zilla Panchayat. The participation of women in the panchayat raj set up as well as the urban local bodies in the district can be seen from table 8.6. This is a reflection of the representation in the current term. It must be mentioned that a minimum proportion of representation by women in these panchayat raj institutions has been mandated by law.

There is more than 40 per cent representation in Gram Panchayats across the district with the overall representation at the district level being 42.7 per cent. Bengaluru North, South, and East have higher representation at the Gram Panchayat level than that in Anekal. At 56.9 per cent, representation of women in Taluk Panchayats at the district level is better than that at the Gram Panchayat level. With respect to Taluk Panchayats, Bengaluru East seems to be leading the way followed by North, South, and a distant Anekal. At the Zilla Panchayat level, 55.9 per cent of the seats are represented by women; Anekal here has taken the lead by sending women to represent in 64.3 per cent of the seats followed by Bengaluru North and South. Women from Bengaluru East represent just 33.3 per cent of its seats at the Zilla Panchayat.

There are two Urban Local Bodies in the district- BBMP and Anekal town municipal council, 36.4 per cent of the seats in BBMP are represented by women while 39.1 per cent of the seats in Anekal town municipal council are represented by women. Thus the participation of women in urban local bodies in the district leaves much to be desired.

Information on the representation of women in governance for the previous two terms can be an important parameter

Table 8.6: Representation of women in Panchayats and Urban local bodies as in 2013, in per cent

	Zilla	Taluk	Gram	Urban
Anekal	64.3	51.9	40.6	39.1
BBMP	--	--	--	36.4
Bengaluru East	33.3	63.6	43.5	--
Bengaluru North	54.5	59.1	44.3	--
Bengaluru South	50.0	58.3	44.0	--
Total	55.9	56.9	42.7	36.7

Note: This is for the current term. Computations based on data provided by Bengaluru Urban district at a glance 2011-12 and BBMP. Current term for Anekal Urban in 2013, BBMP is 2010, for the remaining current term started almost at the end of 2010.

Table 8.7: History of representation of women in Panchayats and Urban local bodies in per cent

	Term before previous term	Previous term	Current term
Anekal Urban	30.4	39.1	39.1
BBMP	35.0	36.0	36.4
GP Bengaluru South	45.1	44.5	44.0
TP Bengaluru South	39.3	36.4	58.3

Note: For Anekal Urban, 2002, 2007, and 2013 are the referred terms. For BBMP, 1996, 2005, and 2010 are the referred terms. For GP Bengaluru South, 2000, 2005, and 2010 are the referred terms. For TP Bengaluru South, 2000, 2005, and 2010 are the referred terms.

Source: Bengaluru Urban Zilla Panchayat and BBMP

to understand the representation history. Table 8.7 provides the information collected from few sub districts.

Anekal Urban implies Anekal Urban local body. GP Bengaluru South implies All gram panchayats in Bengaluru South, TP implies taluk panchayat.

Representation of women in BBMP has shown a marginally increasing trend in the last three terms, it is anyone's guess if this trend would continue. Representation for women in Anekal urban local body after a spike in the previous term has remained the same in the current term. Representation of women in Gram Panchayats in Bengaluru South has come down from 45.1 per cent in term t-2 to 44 per cent in the current term, it will be wise to wait and see the representation of women in the next few terms before making any comment. Representation of women in the Taluk Panchayat of Bengaluru South after declining in the previous terms has jumped substantially in the present term. Participation of women in the Gram and Taluk Panchayats is certainly higher than their participation in urban local bodies.

As per numerous anecdotal accounts though women are represented well in taluk and gram panchayats, they are not allowed to exercise their powers without the consent of their husbands or their families. Behavior of women members who attended the workshops conducted for the human development report tends to strengthen the anecdotal accounts.

8.6 Community attitudes and social prejudices

Despite our country's reputation for respecting women, including treating her as a Goddess, history tells us that women were also ill-treated. There was no equality between men and women. This is true of ancient, medieval and early modern times barring some revolutionary movements such as that of Basaweshwara, the 12th century philosopher, who advocated equality, casteless society, status for women, and betterment of the downtrodden. There are numerous cultural and economical barriers for women, these are, gender specific specialization with respect to work, cultural definition of appropriate roles, expectation of role within relationship, belief in the inherent superiority of males, customs of marriage especially bride price or dowry, notion of the family as the private sphere

and under male control, social values that give proprietary right over women and girls,limited access to cash and credit, limited access to employment in formal and informal sector, limited access to education.

With respect to Bengaluru Urban district we have already shown in our previous chapters that girls and women are slowly overcoming all these barriers. Garment industries are more welcoming to women; we have even seen that more number of women seek jobs as stenographers and typists at employment exchanges than men. Even in the sunrise industries of software and biotechnology women are preferred for their better soft skills. We have also discussed how the enrollment of girls has increased is probably more than that of boys in certain areas, this clearly shows that social norms in the district are changing for the better.

Bengaluru City also has numerous examples of women who have broken such social prejudicies; the success acheived by Ms Kiran Muzmudar Shaw, the Chairman and Managing Director of Biocon limited is one such example which will motivate the women not only in the district but also across the country. With education and more opportunities women in Bengaluru Urban district can be the harbinger of change in the community attitudes and social prejudices in our society.

8.7 Crime against Women

Data on crime against women at the sub-district level is currently not available hence we present data at the level of Bengaluru City which is easily available; this we hope will be good enough to understand the trend in the district. Table 8.8 shows the trend in the city of Bengaluru.

As can be seen the number of incidences has increased by over 50 per cent from 1258 in 2001 to 1890 in 2011. Immoral traffic cases were the highest in 2001 followed by dowry prohibition cases, cruelty by husband, and molestation cases. These four type of incidences collectively accounted for more than 85 per cent of the cases in 2001. With respect to 2011, compared to that in 2001, the proportion of immoral traffic cases has drastically come down; however, proportion of dowry prohibition cases during the same period has increased to worrying levels. The fact that compared to that 2009, the proportion of dowry prohibition cases has come down in 2011 offers no solace. There has been rise even in the number of cruelty by husbands and molestation cases in 2011. For Bengaluru City, kidnapping and abduction of women seem to be a major problem in 2011. The number of rape incidences reported has also increased substantially in 2011 compared to that in 2009. The gender imbalance of the district may also be a reason here. It is thus clear that the social prejudices against women even in a city like Bengaluru has not changed drastically in the decade of 2001 to 2011. With increasing participation of women in all spheres of life, it will be increasingly important for the society to provide them the security they deserve, so that it helps them to lead a life of dignity. If we fail in this duty then we can be certain that the difference between the human

Table 8.8: Incidence of crime against women in Bengaluru City

Year	R	K&A	DD	CbH	M	SH	ITA	DP	Total cases
2011	5.1	10.9	2.8	24.2	13.2	2.1	9.5	32.0	1890
2010	4.1	1.8	3.3	25.4	19.6	3.2	7.1	35.5	1570
2009	4.4	0.1	3.4	24.9	17.1	2.4	9.1	38.5	1471
2001	3.2	4.5	3.2	18.2	17.7	4.1	28.3	20.9	1258

Note: All numbers except Total cases are per cent. Total cases are in numbers. R - Rape, K&A - Kidnapping and abduction, DD - Dowry deaths, CbH - Cruelty by Husband and relatives, M - Molestation, SH - Sexual harassment, ITA - Immoral traffic act, DP - Dowry prohibition act.

Source: National Crime Records Bureau, Government of India.

development potential and the actual human development outcome for women in the City would be huge.

8.8 Role of women's groups and SHGs

Given the traditional role of women in our society, self help groups' (SHGs) help women realize their human development potential by unlocking numerous economic opportunities. As has been noted in the Karnataka Human Development Report 2005, "SHGs are an effective strategy for poverty alleviation, human development and social empowerment. They offer grassroots participatory implementation that is demand driven by 'beneficiaries' who, in other projects, often find themselves receiving goods or services in a manner that is opaque and impersonal. Most SHG based programmes are implemented by the government in partnership with NGOs, or by NGOs and donor agencies. SHGs also have the potential to transform themselves into vibrant civil society organizations." Table 8.9 shows the participation of women in SHGs across Bengaluru Urban district for few selected years.

Since each sub-district has unique features it will not be appropriate to compare across sub-districts, hence, we look individually at each sub-district. In Anekal, the most backward taluk of the district, the number of groups has increased substantially from 713 in 2005-06 to 1045 in 2012-13. Given that the number of women per group has almost remained the same, there also has been a corresponding increase in the number of women members. Compared to its previous year, the increase in the number of groups in 2008-09 has been much greater than the increase in the number of groups in 2012-13. As a proportion there are less SC members in 2012-13 than they were in 2008-09, and certainly very much less than they were in 2005-06. Compared to 2005-06, there are more ST women members both in absolute numbers as well as proportion in 2012-13; though the proportion of ST women members has slightly decreased, the absolute numbers have increased in the year 2008-09. The absolute number of minority women members of self help groups has increased from 145 in 2005-06 to 262 in 2008-09, to 263 in 2012-13. Finally, other women members have increased from 6438 in 2005-06 to 11586 in 2012-13. Thus it is clear that there has been an overall increase in participation of women across all groups, which is a noteworthy feature.

In Bengaluru North region, the number of SHGs in 2008-09 was almost 25 per cent more than that in 2005-06. The corresponding increase in per cent from 2008-09 to 2012-13 was much lower at 5 per cent. From 2005-06 to 2012-13, all the groups have shown an increase in the number of women members, with the number of minority women members almost doubling from 455 in 2005-06 to 868 in 2012-13. As a proportion of the total, from 2005-06 to 2012-13, there has been a slight decrease in SC as well as ST women members, while the proportion of other women members has almost remained the same during this period. The proportion of minority women members during this period has risen from 3.6 per

Table 8.9: Participation of women in self help groups across Bengaluru Urban district

	Year	Groups	Total	Wpg	% SC	% ST	% Minorities	% Others
Anekal	2005-06	713	12109	17	44.0	1.7	1.2	53.2
Anekal	2008-09	974	17345	18	35.1	1.6	1.5	61.8
Anekal	2012-13	1045	18727	18	34.8	2.0	1.4	61.9
Bengaluru North	2005-06	816	13395	16	24.0	4.7	3.4	67.9
Bengaluru North	2008-09	1016	16822	17	22.9	4.5	3.3	69.2
Bengaluru North	2012-13	1066	17729	17	22.9	4.4	4.9	67.8
Bengaluru South	2005-06	778	13028	17	25.0	4.0	8.8	62.3
Bengaluru South	2008-09	1000	17273	17	22.3	4.1	7.6	66.1
Bengaluru South	2012-13	1050	17989	17	24.5	3.9	7.8	63.9

Note: Groups is number of groups, Total is total number of women in the groups, Wpg is number of women per group, %SC is the proportion in per cent of women SC members, %ST is the proportion in per cent of women ST members, %Minorities is the proportion in per cent of women members from minority community, %Others is proportion in per cent of women members who are not SC or ST or from the minority community.

Source: Deputy Director Office, Women and Child Department, Bengaluru Urban district.

cent in 2005-06 to 4.9 per cent in 2011-12. Once again there has been an increase in participation by women with a heartening feature of increased participation of women from minority community.

In Bengaluru South, the number of SHGs in 2008-09 was almost 29 per cent more than that in 2005-06. This rate of increase in the number of SHG from 2008-09 to 2012-13, however, dropped just to 5 per cent. The increasing trend in the number of women members from all communities is once again observed. As a proportion, percentages of SC, ST, and minority women members in 2012-13 have dropped slightly from their 2005-06 percentages. On the other hand, the proportion of other women members has shown a slight increase during this period. More or less it can be said that women in Bengaluru South region have over the years consistently participated in SHGs. It must be mentioned that Bengaluru South region includes Bengaluru South taluk as well as Bengaluru East taluk.

In Bengaluru City as of 2012-13, there were 2231 self help groups present, assuming an average of 17 members in each group, the total number of women members in self help groups in BBMP area turns out to be 37,927.

The decline in the rate of increase of the number of self groups across the district probably indicates increased coverage in the region and hence a decreasing need for more self help groups.

8.9 Concluding Remarks

We have seen in this chapter that the change in the gender or sex ratio from 2001 to 2011 for Bengaluru Urban district has been very gradual or probably a reluctant shift. This highlights the importance of creating awareness, on the importance of the girl child, through public debate and discussion, and other channels of communication including the media. Female literacy rate in Bengaluru City is yet to catch up with the male literacy rate. There are 61 wards in Bengaluru City that have female literacy levels less than the district average of 84 per cent, which is a reason for concern. This clearly shows there is lot of work to be done with respect to increasing female literacy rate not only in other sub-districts but also in the wards of Bengaluru City. We are however unable to tell more about the factors responsible for the lower level literacy levels among females in the City, which in our opinion, is the subject for a separate study. Progress with respect to enrolment of girl child in schools seems to be satisfactory, highlighting the good work done by the department and the district officials. At the district level though there is increasing female participation in the labour force, the increase is more in the form of marginal female workers, which given the lack of social security in the country is not a desirable outcome. Women are represented well in Gram and Taluk panchayats as well as Zilla Panchayat of Bengaluru Urban district. Representation of women in Urban Local bodies in the district has remained below 40 per cent, suggesting that there is room for improvement. Women in Bengaluru seem to be enthusiastically participating in SHGs, which is a heartening feature.

9 Status of Scheduled Castes and Scheduled Tribes



9.1 Introduction

The category of 'Scheduled Caste' generally comprises castes that were isolated and disadvantaged by their relatively low status in the traditional Hindu caste hierarchy. The treatment meted to them by rest of society due to their low status, it is mentioned in numerous texts, was deplorable. This oppression led to deprivation. In Karnataka, as in Bengaluru Urban district, the Scheduled Castes (SCs) form a sizeable part of the total population. It is mentioned in the Karnataka Human Development report of 2005 that Scheduled Castes are known by different names in different parts of the state and comprise many sub-castes and communities. This report also mentions that though the Scheduled Castes are the largest single group in Karnataka, they are also the weakest in terms of political, economic, social and cultural resources. As per the same report Scheduled Tribes are tribes notified under Article 342 of the Constitution, which makes special provision for 'tribes, tribal communities, parts of, or groups within which the President may so notify'. Tribes can be distinguished by some characteristics that are generally accepted: self-identification, language, distinctive social and cultural organization, economic underdevelopment, and geographic location. It is reported there are tribes who still live in hilly and/or forested areas, somewhat remote from settlements. Given their traditional way of living, tribal people are economically vulnerable and have been marginalized by the society.

Thus it is an opportunity to use the human development concept and cull out useful policy inputs that would improve the levels of these disadvantaged people, i.e. the Scheduled Castes and Scheduled Tribes. The aim of this chapter is to delineate the status of the Scheduled Caste and Tribes in Bengaluru Urban district. We begin with a demographic profile followed by an education profile. This will be followed by a description of their occupational profile and their living conditions in the district.

9.2 Demographic profile

We have already discussed the demographic profile of Scheduled Castes (SC) and Scheduled Tribes (ST) in previous chapters. Hence we do not repeat that here. For example table 2.5 discussed the proportion of SCs and STs in the total population of the district. Chart 5.3 has already discussed the proportion of SC and ST population in the wards of Bengaluru City. Table 2.6 shows the sex ratios for the years 2001 and 2011. Chart 5.3 shows the sex ratio for SC's and ST's at the ward level in Bengaluru. Hence, let us analyze if one of the factors for the lower sex ratio among ST's is low literacy rates.

9.3 Literacy, dropout rate, and preferences of schools

The importance of literacy need not be reemphasized, it has been generally observed that a literate individual is more open to new ideas and shares her/his knowledge in the society. Higher the literacy rate in a community, greater the possibility that the difference between the human development outcome and human development potential is a minimum. Table 9.1 shows the literacy levels of SC's and ST's in Bengaluru Urban district. This has been computed using Census 2011 numbers.

Table 9.1: Literacy rate of SC and ST in Bengaluru Urban district in per cent as per Census 2011

	SC overall	SC male	SC female	ST overall	ST male	ST female
District	78.6	84.2	72.8	81.1	85.9	75.9
Rural	69.2	76.7	61.4	70.7	77.1	63.5
Urban	80.4	85.7	75.0	82.9	87.4	78.0

Source: Department of Census, Government of India

The overall SC literacy rate at 78.6 per cent is lesser than the district literacy rate of 87.7 per cent; over all ST literacy rate at 81.1 per cent is higher than that of SC but still lesser than the district literacy rate. The ST literacy rate in rural as well as urban areas is higher than the SC literacy rate in rural and urban areas. The literacy rate of males at the district level is 91 per cent, while that of SC males at the district level is 84.2 per cent, comparatively; the literacy rate of ST males at 85.9 per cent is closer to the district level literacy rate. Similarly, for females the district level literacy rate is 84 per cent while that for SC females is 72.8 per cent and that for ST females is 75.9 per cent. It is thus clear that the literacy rates of SC's and ST's have to catch up, with SC's having to do more work than the ST's.

As expected male literacy rate, both for SC's as well as ST's, is higher than female literacy rate. Surprisingly, the literacy rate for ST women is higher than that for SC women; this is true at the rural, urban, and district level. Similar is the scenario with respect to literacy rate of ST male and that of SC male. The difference between literacy rate of SC male and SC female is much higher than that between ST male and ST female; once again, this is true at the rural, urban, and district level. This clearly tells us that ST's in the district give more importance to literacy than SC's in the district.

Table 9.2 shows the SC and ST enrolment in all the schools of Bengaluru Urban district. Bengaluru North here implies Bengaluru North block of the education department, similarly for Bengaluru South. As can be seen the average enrolment in Bengaluru North for SC boys for standards 1 to 10 is around 4554, this number drops to 1330 for standards 11 and 12. This implies that more than 3000 boys drop out of school (unless they move to schools in other places, which seems unlikely). The situation in Bengaluru North with respect to enrolment of SC girls to standards 11 and 12 is the same as SC boys. The average enrolment for SC girls for standards 1 to 10 is 4463 and this number drops to 1273 for standards 11 and 12. The average enrolment in Bengaluru South for standards 1 to 10 for SC boys is around 6809; this number drops drastically to 380 for enrolment in standards 11 and 12. This implies that in Bengaluru South almost 6500 of SC boys go out the education system. Enrolment of SC girls in Bengaluru South for standards 1 to 10 is 6600; this drops to 430 for standards 11 and 12. The reasons for the drastic drop in enrollment for standards 11 and 12 among SC boys and girls probably needs an in depth study.

Table 9.2: Enrolment of SC and ST across standards in all schools for the year 2012-13

All schools	1 to 10 Boys	1 to 10 Girls	11 to 12 Boys	11 to 12 Girls
Bengaluru North SC	45539	44635	2660	2546
Bengaluru South SC	68092	66023	761	858
Bengaluru North ST	7226	6954	267	204
Bengaluru South ST	10963	11176	219	202

Note: Bengaluru North implies Bengaluru North block, Bengaluru South implies Bengaluru South block.

Source: Sarva Shikshana Abhiyan, Karnataka, 2012-13.

Table 9.2a: Enrolment of SC and ST in all schools for the year 2011-12

All schools	1 to 10 Boys	1 to 10 Girls
Bengaluru North SC	45707	44868
Bengaluru South SC	60528	58938
Bengaluru North ST	7129	6713
Bengaluru South ST	9942	9304

Note: Bengaluru North implies Bengaluru North block, Bengaluru South implies Bengaluru South block.
Source: DDPI Bengaluru South

Table 9.3: School preferences of SC's and ST's in Bengaluru Urban district in per cent for the year 2012-13

Standards - 1 to 12	All	DoE	T/SWD	LB	Pvt Aided	Pvt Un-aided	Others	CG
Bengaluru North SC	100	27.0	0.1	2.6	24.0	44.6	0.1	1.7
Bengaluru South SC	100	30.5	0.2	1.1	19.8	47.2	0.3	0.8
Bengaluru North ST	100	25.3	0.1	0.4	14.5	55.9	0.1	3.7
Bengaluru South ST	100	23.1	0.5	1.2	15.7	58.1	0.3	1.2

Note: Bengaluru North implies Bengaluru North block, Bengaluru South implies Bengaluru South block. DoE-Department of Education, T/SWD-Tribal/Social Welfare Department, LB-Local Body, Pvt-Private, CG-Central Government.

Source: Sarva Shikshana Abhiyan, Karnataka, 2012-13.

The average enrolment of ST boys in Bengaluru North for standards 1 to 10 is 722 while the enrolment for standards 11 and 12 is around 140, reduction of almost 600 students. Around 695 ST girls get enrolled on an average in standards 1 to 10 in Bengaluru North, once again this number comes down to 102 for enrolment to standards 11 and 12. There is some social phenomenon in Bengaluru South, as once again, average enrolment of ST boys drops from 1096 (standards 1 to 10) to 109 (standards 11 and 12). For ST girls the drop is steeper from 1117 (standards 1 to 10) to 101 (standards 11 and 12). Though our assumption of equal enrolment in all standards can be changed to varying enrolment rates across standards, the message coming out from the blocks will not change. Thus policy with respect to SC and ST needs to be sensitive and fine tuned to counter the social phenomenon that forces SC & ST boys and girls drop out of school after class 10. Table 9.2 was based on 2012-13 data; table 9.2a is based on 2011-12 data but is available only for 1 to 10 levels for boys and girls.

An understanding of the kind of schools preferred by SC's and ST's may give some further insights. Table 9.3 shows the

distribution of the schools preferences for SC's and ST's for standards 1 to 12.

The SC community in Bengaluru North and South prefer private unaided schools followed by private aided school and department of education schools, among themselves these three schools account for more 95 per cent of the enrolment of SC's in Bengaluru North and South. Private unaided schools account for more than 50 per cent of the ST enrolment in Bengaluru North and South. After private unaided schools, ST's prefer department of education schools followed by private aided schools. Central government schools are also preferred by the ST community in Bengaluru North. Though it is clear from table 5 that private unaided schools are preferred, one cannot ascertain if it is by choice or by factors that are beyond the control of parents. It could also be the case that due to lack of admission to private aided schools, parents have no option but to rely on private unaided schools. Similar trend for the year 2011-12 can be seen from the table 9.3a.

9.4 Occupational pattern, livelihood opportunities and development programmes

Occupational pattern and livelihood opportunities

Importance of income on human development has already been elaborated.

Table 9.3a: School preferences of SC's and ST's in Bengaluru Urban district in per cent for the year 2011-12

Standards - 1 to 12	All	DoE	T/SWD	LB	Pvt Aided	Pvt Unaided	Others	CG
Bangalore North SC	100	29.7	0.1	3.2	28.4	37.4	1.1	0.1
Bangalore South SC	100	36.9	0.2	1.6	22.7	37.9	0.5	0.2
Bangalore North ST	100	28.5	0.1	0.5	15.6	53.1	2.2	0.0
Bangalore South ST	100	28.4	0.5	0.6	16.6	52.8	0.9	0.1

Note: Bengaluru North implies Bengaluru North block, Bengaluru South implies Bengaluru South block. DoE - Department of Education, T/SWD-Tribal/Social Welfare Department, LB-Local Body, Pvt-Private, CG-Central Government
Source: DDPI Bengaluru South

Table 9.4: Main and marginal SC workers in per cent, as per Census 2011

	Main	Marginal	Main men	Marginal men	Main women	Marginal women
District	88.4	11.6	90.6	9.4	83.8	16.2
Rural	84.4	15.6	87.4	12.6	78.3	21.7
Urban	89.3	10.7	91.2	8.8	85.0	15.0

Source: Department of Census, Government of India

Table 9.5: Main and marginal ST workers in per cent, as per Census 2011

	Main	Marginal	Main men	Marginal men	Main women	Marginal women
District	88.2	11.8	90.4	9.6	82.9	17.1
Rural	86.3	13.7	88.4	11.6	82.2	17.8
Urban	88.5	11.5	90.8	9.2	83.1	16.9

Source: Department of Census, Government of India

Income of an individual is generally dependent on the individual's occupation. A person who is employed for a longer period of time, generally, is expected to have better income than a person who is employed for a shorter period of time. Thus Census data will be helpful to better our understanding of the occupational profile of SC's and ST's in Bengaluru Urban district.

Table 9.4 shows the distribution of main and marginal workers among SC workers in Bengaluru Urban district.

Among SC workers there are more main workers, both in absolute terms as well as in proportion, in urban areas compared to those in rural areas. Among SC men, the per cent of main workers in urban areas is 91.2, while that in rural areas is 87.4. Providing continuous employment for SC marginal workers in rural areas is a policy challenge. The proportion main female workers is lesser than that of men, while the proportion of marginal women workers is higher than that of women, which is on expected lines. The proportion of marginal SC women workers in rural areas is much more than that in urban areas, this indicates the lower income levels as well lack of work opportunities in the rural areas of district.

Table 9.5 shows the distribution of main and marginal workers among ST workers in Bengaluru Urban district.

The proportion of main ST workers in rural areas is higher than the corresponding proportion of SC's in rural areas. This probably hints that there are more number of SC's have migrated to urban areas in search of better opportunities. The trend of main and marginal workers among ST men is similar to that of SC men. It is in the trend of rural women workers that ST's differ from SC's. As a proportion, there are more ST women main workers in rural areas than SC women main workers. This clearly hints at the low levels of income for ST's in rural areas. In urban areas the proportion of marginal ST women workers is slightly higher than those of SC's probably indicating the lack of skill among them to become main workers.

Since urban areas offer better livelihood opportunities for SC's and ST's compared to opportunities in rural areas, is it true that a majority of the population lives in urban environs in the district compared to earlier times. Table 9.6 will help us understand if there is any semblance of truth in this argument.

Table 9.6: Proportion of SC and ST population living in rural and urban areas of the district in per cent

Year	Rural -SC	Urban -SC	Rural -ST	Urban -ST
2001	31.14	68.86	31.93	68.07
2011	18.08	81.92	16.95	83.05

Source: Department of Census, Government of India

Table 9.7: Distribution of Main workers across categories in per cent, as per Census 2011

	Cultivators	Agri Labour	HH Ind	Other
SC Total	2.4	4.5	2.3	90.9
ST Total	2.6	3.8	3.1	90.5
SC Rural	10.7	19.7	2.0	67.6
ST Rural	11.2	16.4	4.2	68.3
SC Urban	0.7	1.5	2.3	95.5
ST Urban	1.0	1.5	2.9	94.6

Note: Agri Labour – Agriculture Labour, HH Ind – Household industries.

Source: Department of Census, Government of India

As can be seen from the above table the truth staring in our face is that in Bengaluru Urban district the proportion of SC's and ST's living in rural areas in 2011 has dropped drastically. In 2001, over 31 per cent of the SC population lived in rural areas, which has come down to just 18.08 per cent in 2011. For ST's this drop has been more drastic, the proportion of population which lived in rural areas in 2001 was almost 32 per cent which has come down to just 16.95 per cent in 2011. The formation of BBMP in 2007, in which 110 villages were included into the City could also be factor for the drastic drop in proportion of rural population; however, this factor would be marginal, the major driver for this drop, in our opinion, should be the availability of better livelihood opportunities in urban areas of the district.

Another important facet of the occupational profile among SC's and ST's is the distribution of main workers across various categories. Table 9.7 shows this distribution for SC's and ST's in Bengaluru Urban district.

It can be seen that in rural areas while the proportion of cultivators among SC main and ST main workers is almost the same, the proportion of main agricultural labour is higher for SC than that for ST. In rural areas, as a proportion more ST main workers are employed in household industries than SC main workers. Since we do not know the nature of the household industries we are unable to make any further comment. In urban areas, there is not much difference between SC and ST main workers, in terms of their distribution. Almost 95 per cent of main workers in both the communities are involved in Other activities. A very tiny fraction of main workers in both the communities (numerically accounting for 2701 SC and 643 ST individuals) still are cultivators in urban areas, these are probably people who have not yet sold their land for development of residential complexes or shops etc. The existence of agricultural labour in urban areas in both the communities indicates the need for government action in the form of identifying these people and equipping them with skills that would be of more use in an urban set up.

Development programmes

There are numerous development programmes for these communities. As

per information available on Social Welfare department website of Government of Karnataka, for example, there is a scheme called Navachetana for imparting training of unemployed SC youths. The Centrally Sponsored Coaching and Allied Scheme is another scheme for coaching of SC/ST/OBCs for various competitive examinations through pre examination training centers. In addition, there is an employment cell exclusively to register for employment purpose the names of SC's/ST's at all levels of qualification. The department in order to increase the literacy levels among SC children is also implementing several educational schemes such as: Nursery-Cum-Women-Welfare Centres, Residential Schools and, Navodaya and Morarji Desai Residential Schools.

In addition to the educational schemes implemented for the welfare of SC students, the department also awards scholarships. Such scholarships are awarded to all SC students from standard I till completion of their studies. These scholarships include: Incentive Scholarships from I to IV std. students, Incentive Scholarships to High School going girls, Pre-matric scholarships, Merit scholarships, Post-matric scholarships, Pre-matric scholarships to children of those parents who are engaged in occupations that are un-clean, State post-matric scholarship, Prize money to meritorious students, Cash prize for rank holders, Financial assistance to SC M.Phil and PhD Students in Karnataka, Book bank scheme, and Financial assistance to SC students who are admitted for higher education in foreign universities.

9.5 Housing, sanitation and drinking water facilities

Housing

One of the biggest problems in Indian cities is finding affordable housing, this we expect also to be the case in the urban parts of the district. Given their plight, it is apparent that SC's and ST's in Bengaluru Urban district will also find this as a huge challenge. As per 2011 Census, 29.6 per cent of SC's in Anekal TMC live in slums compared to 1.7 per cent of ST's in Anekal TMC who live in slums. 37.3 per cent of SC's in Bengaluru City live in slums compared to 2.3 per cent of ST's in Bengaluru City who live in slums. Table 9.8 shows the per cent of SC's and ST's living in own and rented accommodation in the rural and urban parts of the district. For urban areas, this will also include owned or rented accommodation in slums.

Table 9.8: Type of SC and ST accommodation in rural and urban areas in per cent, as per Census 2011

	Owned	Rented	Any other
SC Rural	73.5	22.7	3.7
SC Urban	49.4	46.8	3.7
ST Rural	47.1	45.7	7.2
ST Urban	33.1	62.1	4.8

Source: Department of Census, Government of India

Table 9.9: Proportion of houses of SC and ST's in terms of exclusive rooms in per cent, as per Census 2011

	Total	No exclusive rooms	One	Two	Three	Four	Five	Six & above
SC Rural Owned	100	13.9	41.0	29.7	10.6	3.1	1.0	0.7
SC Rural Rented	100	17.5	48.5	26.7	5.6	1.1	0.4	0.3
SC Urban Owned	100	9.6	42.5	28.3	13.1	4.2	1.3	1.1
SC Urban Rented	100	10.0	46.6	30.1	10.4	2.1	0.5	0.3
ST Rural Owned	100	11.4	39.0	31.1	11.5	4.3	1.5	1.1
ST Rural Rented	100	15.9	47.2	28.8	6.3	1.3	0.3	0.2
ST Urban Owned	100	8.0	35.7	29.5	17.2	6.0	2.0	1.6
ST Urban Rented	100	10.8	44.7	31.2	10.3	2.2	0.5	0.4

Source: Department of Census, Government of India

Table 9.8 concretizes the general perception that is held with regard to housing, and hence, asset status of SC & ST. Almost three quarters of SC households in rural areas own their houses, this drops to less than half for urban areas. Only 22.7 per cent of SC households live in rented accommodation in rural compared to 46.8 per cent in urban areas. It can be seen that both in rural and urban areas, SC households have better housing status compared to ST households. Only 47.1 per cent of ST households own their houses in rural areas with a substantial 45.7 per cent ST households living in rented accommodation in rural areas. The situation of ST households in urban areas is worse, only 33.1 of the households own their houses while a majority i.e. 62.1 per cent of the households' lives in rented accommodation in the urban landscape. On the basis of house ownership, SC households seem to have better asset status than ST households.

An important indicator of quality of life is the number of rooms in the dwelling, more the number of rooms more the personal space for each member of the household. Table 9.9 shows the number of exclusive rooms in SC and ST households of the district.

A majority of SC and ST households in rural and urban areas, irrespective of whether they own or have rented it, live in a house with just one exclusive room. Only 15.4 per cent of SC households that own a house in rural areas have more than three exclusive rooms, for urban areas this proportion increases to 19.7 per cent. The proportion of SC households that do not have exclusive rooms is higher in rural areas compared to that in urban areas. One is not sure if this is due to cultural/traditional reasons or due to lower income, as this seems to true even with respect to ST households. 18.4 per cent of the ST households in rural areas that own a house have more than three exclusive rooms, for urban areas this proportion shoots to 26.8 per cent, clearly indicating the improved economic conditions as well preferences for more rooms in urban areas as this phenomenon was also seen in case of SC households. It is clear from table 9.11 that bulk of the SC and ST households live in houses that have either no or one or two exclusive rooms. This also is an indicator of their economic status.

It is apparent that the above discussion is based on the assumption that exclusive rooms do not have a high variation in size, as it is possible that a house with no exclusive rooms may be much bigger than a house with multiple exclusive rooms.

Sanitation

Sanitation and personal cleanliness are important pre-conditions for good health, which is an important factor for human development. Table 9.10 shows the access of SC & ST households to bathroom, access to drains, and access to toilets in percentage terms.

As expected, within a community, the urban peers choose to have better access to bathroom, closed drains, and toilets than their rural peers. Surprisingly, ST's have better access or choose to have better access than SC's in the all parameters stated above, both in rural as well as urban

Table 9.10: SC and ST household access to bathrooms, drains, and toilets in per cent, as per Census 2011

	Total	Bathroom within premises	Bathroom not in premises	Closed drain	Open drain	No drain	Toilet within premises	Public toilet	Open
SC Rural	100	84.9	15.1	13.2	58.8	28.0	53.9	2.3	43.8
SC Urban	100	95.2	4.8	73.4	19.6	7.0	88.2	6.4	5.4
ST Rural	100	87.1	12.9	18.2	54.1	27.8	66.8	2.2	31.0
ST Urban	100	96.8	3.2	76.0	18.4	5.6	92.6	2.7	4.7

Source: Department of Census, Government of India

Table 9.11: Drinking water facilities for SC and ST households in per cent, as per Census 2011

	Total	Location			Source		
		Within the premises	Near the premises	Away	Tap Water from treated source	Tap Water from untreated source	Tube well/ Borehole
SC Rural	100	26.8	57.6	15.5	28.1	44.6	23.6
SC Urban	100	63.0	26.6	10.5	67.3	13.4	13.6
ST Rural	100	35.0	49.5	15.5	29.4	36.0	29.8
ST Urban	100	70.8	20.2	8.9	64.9	12.8	16.3

Source: Department of Census, Government of India

areas. In rural areas, 15.1 per cent of the SC households do not have bathroom within their premises compared to 12.9 per cent of ST households. Only 53.9 per cent of SC households in rural areas have toilets within their premises compared to 66.8 per cent of ST households. 18.2 per cent of the ST households have a closed drain out of their bathrooms compared to 13.2 per cent of SC households. Similarly, in urban areas ST households choose to have better sanitation practices than their SC counterparts.

Drinking water

Table 9.11 shows access to drinking water for SC and ST households in Bengaluru Urban district. The rural and urban divide is once again apparent in the numbers. Only 26.8 per cent of the SC households in rural areas have a drinking facility within their premises compared to 63 per cent of the SC households in urban areas. 67.3 per cent of the SC households in urban areas use tap water from treated source compared to 28.1 per cent of SC households in rural areas. 44.6 per cent of the SC households in rural areas use tap water from untreated source compared to just 13.4 per cent in urban areas. The scenario with respect to ST households in urban areas and ST households in rural areas is broadly the same. If one compares SC and ST households, it is clear that in rural and urban areas, with respect to water within the premises the proportion of ST households outscores that of SC households. Consequently in rural and urban areas, the proportion of SC households that collects their water near their premises is higher compared to that among the ST households.

It must be pointed out that a not so insignificant proportion of SC and ST households collect their water from places that are away from their home, both in rural as well as urban areas. In urban areas, with respect to tap water, SC households as a proportion have higher access compared to ST households. As a result, the proportion of ST households depending on tube well in urban areas is higher than that of SC households.

9.6 Composite Dalit Development Index

To understand the development of dalits in our society, an attempt is being in this exercise to capture their development through the dalit development index. Only one panchayat needs to be selected for a district. The selection of the panchayat should be in most backward taluk of the district, it should be a mulit-caste panchayat, the selected panchayat should be ideally 15 kms away from the taluk headquarters, and 50 dalit families will be randomly selected for the study. Based on this criteria Vanakannahalli gram panchayat in Anekal taluk was selected. The total population of the GP was 6132 as per 2011 Census, with the total dalit population being 2152 as per 2011 Census. Thus this is a multi caste panchayat. The distance of the gram panchayat from the taluk headquarters is around 8 to 9 kms. Within the gram panchayat proportionate sampling was used to determine the number of families to be surveyed from the villages of the panchayat.

Table 9.12: Composite Dalit Development Index

Sl. No.	Dimensions	Vanakannahalli	S K Garden
1	Institutional Inclusion	0.5	--
2	Social Inclusion	0.5	0.4
3	Perception of Discrimination	0.6	0.9
4	Protest against Discrimination	0.1	0
5	Conflict Resolution	0.8	1
6	Perception of Freedom	1	1
7	Gender Dimension of Dalit Development	0.5	0.5
8	Standard of living	0.7	--
9	Access to basic facilities -Water, Toilet, Drainage	0.167	0.333
10	Access to basic facilities - Education	0.5	--
11	Composite Dalit Development Index	0.537	0.590
12	Dalit Deprivation Index - DDI=1-CDDI	0.463	0.410

Source: NIAS Survey 2013, Vanakannahalli GP

Due to the unique nature of the district and on the suggestion of the Commissioner of BBMP, a ward from Bengaluru City was also selected for the study. The Commissioner had suggested S K Garden ward, it was found that this ward as per Census 2011 had a total population of 38050, with SC population being 6497 and ST population being 541. Thus the proportion of dalits in the total population is around 18.5 per cent. 50 dalit families were randomly selected for the survey in this ward. Under the composite dalit development index there were numerous sub indices, for example institutional inclusion, social inclusion, perception of discrimination, protest against discrimination, conflict resolution, perception of freedom, gender dimension of dalit development, and standard of living. The composite dalit development index takes in to account institutional and social inclusion, discrimination, freedom, standard of living gender diversion, and access to basic facilities. Institutional inclusion captures the representation of dalits in institutions, a score of 0, 1, or 2 is given based on the data. Similarly for social inclusion, inclusion with respect to residence, address, festivals, temples and hotels is measured. Perception of discrimination measures it with respect to drinking water, education, health, social discrimination and economic discrimination. The survey also measured protest against discrimination and resolution of conflicts. Perception of freedom, standard of living, issues with respective to gender, and access to basic facilities like water, toilets, and drainage ideally would also be recorded in the survey.

Responses generated were standardized to scores of 0, 1, and 2.

$$\text{Index} = \frac{\text{Actual value}}{\text{Maximum value}}$$

This formula is then used to get index with respective institutional inclusion, social inclusion, perception of discrimination, protest against discrimination, conflict resolution, perception of freedom, standard

of living, gender dimension, and access to basic facilities. The final index value is the average of these ten indices.

Table 9.12 shows the composite dalit development index for Vanakannahali gram panchayat and S K Garden, as well as the various sub indices that were used for the construction of the composite dalit development index. Dalit deprivation index is 1-CDDI. Higher the index, higher the deprivation among dalits.

As can be seen from the table we have used ten indicators for Vanakannahalli gram panchayat to compute the index, while we have used seven indicators for S K Garden ward to compute the index. There have been certain practical limitations that arose while conducting the study on CDDI. With respect to Vanakannahalli, survey data was collected for social inclusion, perception of discrimination, protest against discrimination, conflict resolution, perception of freedom, and gender dimension. Institutional inclusion and standard of living data was collected from Gram and Zilla Panchayath officials. Data on access to basic facilities was difficult to obtain, hence for water, toilet, drainage and education data taluk averages were assumed to be representative. With respect to S K garden, survey data was collected for social inclusion, perception of discrimination, protest against discrimination, conflict resolution, perception of freedom, and gender dimension. Institutional inclusion and standard of living data was unavailable, hence they were not computed. Data on access to basic facilities was difficult to obtain, hence for water, toilet, drainage and education data urban averages for the district were assumed to be representative. An index value between 0.4-0.59 has been interpreted as average, thus the development of dalits in the rural part of the district can be said to be average. An index value between 0.6-0.79 has been interpreted as good, thus the development of dalits in the urban part of the district is on the border of the average and good. Given the cosmopolitan outlook of Bengaluru City and measurement problems in constructing an index, we believe that development of dalits in S K garden is good. The computed CDDI is for only one grow panchayat and one urban ward is the district. This index broadly hints at the development of dalits in that grow panchayat and the urban ward. Thus the computed CDDI cannot be generalized for the whole district.

9.7 Concluding Remarks

We have seen in this chapter that the proportion of SC in total population has decreased marginally at the district level while that of ST has increased. The proportion of SC's and ST's living in urban areas, as per Census 2011, has increased drastically. At the district level, gender ratio for SC and ST has increased indicating changing social practices. The gender ratio for the ST community in the wards of Bengaluru City has high variation and this seems to be a reason for worry. The gender

ratio in the SC community in the wards of Bengaluru City, on an average, is better. Surprisingly the literacy rate of ST's at the district level is better than that of the SC's. The number of SC boys and girls who drop out of the education system after class 10 is substantial. This trend is also seen among ST boys and girls. Thus education policy with respect to SC and ST needs to be sensitive and fine tuned to counter the social phenomenon that forces SC and ST boys and girls drop out of school. It is also seen that on the basis of house ownership, SC households in the district seem to have better asset status than ST households in the district. Sanitation practices of the ST's are better than that of the SC's, this is true both in the rural as well as urban areas of the district.

10 Governance and Human Development





10.1 Introduction

For human development to occur, citizens of a country need to have the optimum amount of education, health, and income. The right kind of an environment needs to be created, and incentives should be designed by policy such that education and health services are available to all. The Karnataka Human Development Report (2005) notes that good governance is all about providing an efficient and effective administration, which is committed to improving the quality of life of the people. It is about what people expect from the administration, and the willingness and capacity of the administration to fulfill their expectations. The government thus has to play the critical role of creating the environment as well as designing the right kind of policy so that all sections of society benefit. Governance and human development thus are deeply interlinked.

10.2 Local Governance Structure

Bengaluru Urban Zilla Panchayat has four taluks: Bengaluru North, Bengaluru South, Bengaluru East, and Anekal, which come under its administrative control. BBMP is a separate urban local body, which has the administrative control of Bengaluru City. The Zilla Panchayat (ZP) has both representatives of people who are elected to the ZP and administrative officers to take care of the day to day administrative work. Bengaluru Urban ZP has in all 34 representatives, 11 represent Bengaluru North taluk, 6 represent Bengaluru South, 3 represent Bengaluru East, and 14 represent Anekal Taluk. These representatives elect among themselves the chair person for the elected representatives. The main administrative officers in the ZP are the Chief Executive Officer, Chief Accounts Officer, and Chief Planning Officer. These officers over see the function of the various administrative officers posted in the 4 taluk panchayats (TP) of the district. Each TP has an executive officer as well as elected representatives. Each TP oversees the gram panchayats (GP) under its administrative boundaries. There are in all 86 GPs in the district which administer in all 699 villages. Anekal TP oversees 32 GP's covering 234 villages; in addition, there is an Anekal town municipal council which administers Anekal town. Bengaluru North TP, primarily a rural taluk, administers 30 GP's, which control 224 villages. Another rural taluk, Bengaluru South's TP, has 15 GP's reporting to it, these 15 GP's oversee 140 villages. Finally, Banaglore East is a rural taluk, the TP of Bengaluru East administers 9 GP's covering 103 villages in the district.

Give the huge papulation of the district, the district is well represented by member of legislative assembly as well as member of legislative council. There are 28 representatives for the district to the lower house, of which four are reserved constituencies. With respect to members in the upper house, the district sends three members to the upper house.

10.3Panchayat Raj Institutions: Structure and Process

The 1983 Panchayat legislation act introduced by Karnataka and implemented in 1987 was among the pioneering legislations in the country that sought to

give an explicit role in governance to all the local panchayats. The legislation envisaged a two tier structure comprising Mandal panchayats and Zilla parishads, with Gram sabhas within the Mandal Panchayats. A major drawback of this attempt, however, was that the Mandal panchayats were never effectively integrated with the Zilla parishads. The first set of councils elected in 1987 lasted only until 1992, when the experiment was suspended by the incoming ruling party until a new three tier system was introduced under the 73rd Amendment provisions.

Karnataka was also among the first states that passed conformity legislation (the Karnataka Panchayat Act 1993) for the 73rd constitutional amendment. Utilizing the requirement of the three tier structure, the ruling party brought in the Taluk panchayat in the two tier structure of 1983. An enabling provision in the 73rd amendment allowed the states to decide on the question of membership in panchayat raj institutions (PRIs) for members of parliament (MPs) and state legislatures (MLAs). In Karnataka, MPs and MLAs have been given membership in Zilla as well as Taluk panchayat, however, they have no voting rights in the elections to the office of the President and Vice-President, and in the no confidence motion against them. The President of Taluk and Zilla Panchayat has the right to suspend the resolution of a Gram and Taluk Panchayat, respectively. Recommendation for dissolution of a GP can be made by the TP; the ZP can also act suo moto and has power of dissolution. With respect to TP and ZP, the state government has the power of dissolution. The Executive Officer (EO) of the TP / Chief Executive Officer (CEO) has to advise the Taluk/Zilla Panchayat if in his/her opinion a contemplated action or order or resolution is violative of any law. If the Panchayat proceeds with the action he/she is authorized not to implement it. Further, the EO/CEO has to report this to the ZP or government as is appropriate; however, while reporting to the ZP or government, the President of the local government institution has to be kept informed. In the case of the ZP, if government does not communicate its decision within fifteen days the CEO has no choice but to implement the order or resolution.

The ZPs and TPs do not have independent revenue raising powers; they implement the schemes designed by the State or the Central government. Only the GPs have revenue raising powers through taxes and rates assigned to them, such as property tax, non-motorable vehicle tax, factory tax, entertainment tax, water tax, license fee, fee on fairs, etc. It is generally felt that GPs do not have the administrative or enforcement capacity to raise significant revenues from these taxes. The GPs in Bengaluru Urban district have been doing a good job of improving their tax collections. In the fiscal year 2008-09, out of a total due of Rs 25.5 crores, they were able to collect Rs 20.09 crores, which is 81.9 per cent of the total dues. In fiscal year 2009-10 of Rs 27.5 crores they were able to collect Rs 23.6 crores which is 85.8 per cent of the total dues. Tax due increased to Rs 30.8 crores in fiscal year 2010-11 of which GPs were able to collect Rs 26.2 crores at collection per cent of 91.6. In the fiscal year 2011-12, tax

dues increased to Rs 42.8 crores of which they were able to collect Rs 38.8 crore, which is 90.6 per cent of the total dues. Thus revenues for the GPs have been steadily increasing but there needs to be some effort towards 100 per cent collection.

10.4 Urban Local Bodies: Structure, Issues and Processes

There are 198 wards in BBMP, each of which is represented by a councilor, who is a representative of the ward population. As in the case of the ZP, these representatives are helped by administrative officers in the task of governing the City. A number of acts and legislations govern the planning and development in the Bengaluru Metropolitan Region. For example, the Karnataka Town & Country Planning Act provides for planned regulation of growth, development, and land use, for formulation and execution of town planning schemes. The Bengaluru Development Authority Act aims at establishing a Development Authority for the city of Bengaluru and its adjoining areas. By an amendment to the Karnataka Town & Country Planning Act, the Bengaluru Development Authority (BDA) has been made the local planning authority for the local planning area comprising the city of Bengaluru & adjoining areas. The BDA functions as the planning authority in addition to being a development authority. The Bengaluru Metropolitan Region Development Authority (BMRDA) Act established an authority by the same name for the purposes of planning, coordination, and supervision of the proper and orderly development of the areas coming under the Bengaluru Metropolitan Region. The main function of the BMRDA is to carry out a survey of the region, and to prepare a structure plan for the development of the Bengaluru Metropolitan Region. Thus there are numerous statutory authority bodies /parastatal agencies which deal with various issues in Bengaluru City such as: Bengaluru Development Authority, Bengaluru Metropolitan Region Development Authority, Bengaluru Water Supply & Sewerage Board, Bengaluru Metropolitan Transport Corporation, Lake Development Authority, Karnataka Slum Clearance Board, Karnataka Urban infrastructure Development and Finance Corporation, and Bengaluru International Airport Area Planning Authority.

Thus depending on the issue, the urban local body needs to co-ordinate with one of the statutory authority/parastatal bodies. For example, with respect to regulation of land use and construction of buildings BBMP needs to coordinate with BDA and BMRDA. This leads to functional issues, for example, in the case of street lighting, the BBMP carries out expenditure, the functioning of lights and supply of power is with the Bengaluru Electric Supply Company. Given the huge population of the City the numbers of such functional issues that affect it are huge.

10.5 Improving Service Delivery Mechanisms

Bengaluru has been the leader with respect to e-initiatives; the City has strived to provide all services to its citizen through the web. Bengaluru One, a portal, allows a citizen to pay her utility i.e. electricity, water, and mobile bills online, i.e. through

the internet. It also allows her to pay her traffic fines online. There are numerous Bengaluru One offices across the city where one can walk in to avail these services. Bhoomi, probably among the earliest of these e-governance initiatives, which started in the late 1990s, is another service that aids in keeping transparency in land-record management. Bhoomi allows for online delivery and management of land records in Karnataka. The Revenue Department of the Government of Karnataka, with technical assistance from the National Informatics Centre (NIC), Bengaluru, built and operationalized the Bhoomi system throughout the state. The success of this service can be gauged from the fact that this service has computerized more than 20 million records of land ownership of approximately 6.7 million farmers from the State. This has relevance for the rural taluks of the district.

Sakala, or the Karnataka Guarantee of Services to Citizens Act (2011), is another initiative where citizens call to find out procedural delay in the delivery of services of the government. Since its inception, Sakala has received over 100,000 queries. Whenever a request for a particular service is made under Sakala, the applicant first receives an acknowledgement slip with a unique number. This ensures that the request for service will be processed within specified period. This has done with the intention of checking corruption and harassment of citizens by officials across departments. To increase accountability, officials are liable to be asked for compensation for delayed services. Sakala takes care of more than 151 services from numerous departments.

Thus Bhoomi, Bengaluru One, and Sakala are e-governance initiatives of the Karnataka government that have slowly begun to improve transparency and governance in the State, thus making an impact on the life of ordinary citizens by providing them with an opportunity to obtain improved services. These initiatives have also benefitted the residents of Bengaluru Urban district.

10.6 Role of NGOs and other voluntary groups

NGOs or non-governmental organizations have emerged as a very important stakeholder in our development process, Bengaluru Urban district is no exception. NGOs work in areas where their services are most needed, for example, the poor lack the ability to voice their concerns it is here that NGOs step in, voice the concerns of the poor and make all efforts so that the concerns of the poor are addressed by the administrators. Since most the NGO activity began with altruism as the motive they have been successful in becoming the much needed bridge between administrators and the most deprived sections of the society. There are other organizations, such as Civil Society Organizations (CSO), Self Help Groups (SHG), and Community Based Organizations (CBO) whose work is similar to that of an NGO. The work or contribution of each of these groups is unique and benefits the society. For example, SHGs not only promote savings and provide credit, but are intended to become institutions that promote human development and empower their

members, thus help in capacity building of the society. Field evidence has shown that the members of the SHGs build new relationships, which are more balanced in terms of gender and decision-making; they are also more equitable in resource distribution, within the group, at home and at other institutions and groups in society. We have already discussed in the chapter on Gender about the number of SHGs in Bengaluru Urban district as well as the participation of women in these SHGs.

To understand the active involvement of NGOs in Bengaluru City and hence Bengaluru Urban district, we give two examples, without naming the organizations involved: In Bengaluru City, there exists a voluntary professional support group for public and community health in the City that has developed a number of initiatives to address the challenges experienced by the city's healthcare sector. One of their key strategies has been to facilitate the development of networks involving community groups and other NGOs. The aim of such networks is to ensure that all relevant parties are informed regarding the realities of Bengaluru's healthcare system and are adequately equipped to mobilize community action. Another example of active NGO involvement was in the effort to improve water supply and sanitation services for the urban poor, with the help of overseas aid. This initiative involved the provision of water supply and sanitation facilities within three diverse pilot slum communities in different regions of the City. The individual household connections and community level services were accompanied by the phasing out of public taps and fountains. The success of this effort resulted in replication of the effort to extend water supply and underground sewerage services to all areas of the city.

The Bengaluru Agenda Task Force (BATF), a unique experiment in private public partnership in urban governance, was a task force that was constituted through a government order. The mandate given was work with city stakeholders, upgrading and modernizing the infrastructure of the city, modernizing systems and processes for citizens convenience; ensure best practices / management processes and appropriate use of technology; develop and enhance the internal capacity of the stakeholder agencies for sustainability; expand the resource base of the city, financing of civic infrastructure, upgrading facilities and service delivery through private public partnership; enable an efficient, effective and pro active administrative framework; institutionalize upgraded service delivery mechanisms by amending the legal framework; secure greater involvement of citizens, corporates, industry for enhancing quality of life; provide intellectual and professional skills to ensure sustainability.

Thus in Bengaluru City there are numerous examples of voluntary groups and NGOs helping the administration deliver services to people of the district.

10.7 Representation of Women and Marginalized Sections of Society in Governance

In order to give voice to the weaker sections of the society in governance there are certain reservations with respect to

Table 10.1: Representation of Women and SC&ST in the current term, in per cent

	ZP Female	ZP SC/ST	TP Female	TP SC/ST	GP Female	GP SC/ST	ULB Female	ULB SC/ST
Anekal	64.3	21.4	51.9	33.3	40.6	38.2	39.1	13.0
BBMP	NA	NA	NA	NA	NA	NA	36.4	12.6
Bengaluru East	33.3	66.7	63.6	36.4	43.5	34.4	NA	NA
Bengaluru North	54.5	36.4	59.1	27.3	44.3	30.3	NA	NA
Bengaluru South	50.0	33.3	58.3	25.0	44.0	25.6	NA	NA
District	55.9	32.4	56.9	30.6	42.7	33.0	36.7	12.7

Note: NA - Not applicable

Source: Bengaluru Urban District at Glance 2011-12.

representation of women and for the SC & ST community. If a taluk or ULB chooses more women and SC&ST representatives than stipulated by reservation, then probably, we may want it to term as more developed in representation when compared with others. Table 10.1 shows the representation of women and SC & ST in ZP, TP, GP, and ULBs of Bengaluru Urban district.

In this table we have presented per cent of women and SC & ST in the current terms of ZP, TP, and GP; we also have presented per cent of women and SC & ST in BBMP and Anekal TMC. The representation of women in BBMP and Anekal TMC is not more than 40 per cent, while that of SC & ST is not more than 13 per cent.

It can be seen that the with respect to representation of women in ZP, Bengaluru East has the least representation at 33.3 per cent, the highest in the district is Anekal at 64.3 per cent. What this implies is that if Bengaluru East sent 3 members to the ZP, then 1 among them is a female. Thus the most backward taluk in the district seems to be doing better than others in representation for women in the ZP. Overall at the district level, representation of females at the ZP at 55.9 per cent is acceptable.

Bengaluru East has the highest representation with respect to representation of SC/ST in ZP followed by Bengaluru North, South and Anekal. Overall at the district level, representation of SC/ST at the ZP seems reasonable. Representation of females in TP, as a proportion, is highest in Bengaluru East followed closely by Bengaluru North and South. Overall at the district level, representation of female at TPs is acceptable. With respect to representation of SC/ST in TP, once again Bengaluru East has the highest representation followed by Anekal. Overall at the district level, representation of SC/STs at TPs is reasonable. There is not much to choose among the four taluks with respect to representation of females in GP's, with all of them being above 40 per cent. As a proportion, Anekal has the highest representation of SC/ST in GP's followed by Bengaluru East and South. The two ULBs in the district, BBMP and Anekal TMC do not have much difference in their representation of females and SC/ST. The ULBs have much to improve both in terms of representation of females and representation of SC/ST; this is because rural areas of the district are doing better than the urban areas on this score.

To give a perspective of how representation has fared over a period of time. For the 2002 term, Anekal TMC just had female representation of 30.4 per cent, which increased to 39.1 per cent in the 2007 term. Thus there is increasing female representation in Anekal, one,however, does not know if this is due to changing norms or just to keep up with any legal requirement. Similarly, with respect to SC/ST representation Anekal TMC just had 8.7 per cent of the seats occupied by SC/ST in 2002 terms. This increased to 13 per cent in 2007 term and has remained the same for the 2013 term. The increasing representation of SC/ST is indeed a welcome feature. However, it would be interesting to note in the future if this trend

is an increasing one or one that has been on to complete any legal requirement. For lack of data, we cannot comment on similar representation for Bengaluru North, Bengaluru South, and Bengaluru East.

10.8 Concluding Remarks

The importance of governance and its effect on human development has been emphasized in this chapter. The delivery of health and education services by the government critically depends on the revenue stream of government as well as accountability of its officers. Karnataka is a pioneer in terms of e-initiatives to improve service delivery; the NGOs in the district also act as an important bridge between the administrators and the weaker sections of the society. There are numerous examples in Bengaluru where NGOs have immensely contributed to the living conditions of people. Capacity building is another area where the effort of NGOs and SHGs is crucial to the development efforts of the government. Representation of women and SC/ST in the ZP, TP, GP, and ULB of Bengaluru Urban district shows that there is room for improvement for ULB. With more than 80 per cent living in urban environs, representation of women and SC/ST in urban bodies is vital for the uplifting the weaker section of the society and it is here where work remains to be done with respect to increasing their representation. Citizens have shown interest in helping their City grow not only to its potential but also make the City more welcoming; we know that governance impacts human development since it only can provide the necessary services that will help the City rightfully claim its place as one of the leading cities of the world.

11 Urban Issues in Human Development













11.1 Background

The debate of what has been the extent of urbanization in India has thrown fascinating insights into the process of urbanization. There are scholars who argue that though India is urbanizing, the pace is not much different from the earlier trend. Another school of thought says that urbanization in India has been rapid, the only reason it has not come up in the numbers is because of the strict definition used to define an urban area in the country. The areas surrounding to cities have grown at a rapid pace, they may satisfy one or two of the technical criteria but not all three, as a result these areas are yet to be declared as urban. The one thing where there probably is more agreement among the research community is the need for basic infrastructure and services for the existing urban areas. In this chapter we highlight the urban issues in the City of Bengaluru.

11.2 Services for the Engine of Growth

Urban literature acknowledges a city as an engine of growth; a city has numerous service providers who provide basic essentials of life for residents of the City, so that energy of its majority residents is used for fruitful economic activities, these activities are primarily in the secondary and tertiary sectors. Services such as water, electricity, waste management, transport, and civic amenities are under appreciated workhorses for the engine of growth of our times i.e. the City. As we have seen earlier, as per Census 2011, Bengaluru City is home to more than 8 million inhabitants, which probably may have touched or surpassed 9 million by now. Thus providing these facilities not only to the residential blocks but also the business centres of the City is a formidable task even if there were unlimited supplies. Given the huge population and the resource constraints that we find ourselves in, the task of providing basic facilities to all urban residents is indeed extremely daunting. Let us try to understand some of the delivery issues for Bengaluru City. For the average citizen reliable delivery of these basic necessities will help her reach her true development potential, which is what human development, is all about.

11.3 Water Supply and Sewerage

Water supply

Bengaluru Water Supply & Sewerage Board (BWSSB) provides water supply and sewerage services for the City. Bulk of the water supplied to the City by BWSSB, comes from the river Cauvery, which flows at a distance of approximately 98 kilometres from the City. In addition to the transportation cost incurred, is the cost of lifting the water to about 500 meters from the source point. Even among those areas or wards of Bengaluru City that receive Cauvery water from BWSSB, there are issues of uneven water distribution and irregular supply. For example, few areas or wards of the City receive more than abundant supply of water and for longer hours, while some other areas or wards receive very little water and for much shorter duration. There are many areas or wards in Bengaluru City where water is supplied for few hours on alternate days. Another issue is that of unaccounted water, i.e. water which is lost in

the system. A major reason for unaccounted water is unauthorized connections and faulty metering. Pricing is another aspect which requires attention; current pricing it seems is just about adequate to cover the operating costs, which leaves very little for the maintenance and upkeep of the system. This is because in our country, water is considered as an essential and free good; people are not ready to pay up for water, which they feel is their right, though the delivery cost for water for urban needs has been steadily increasing. If the piping network is not maintained, in places where the pipes run closely with the sewage network there is the risk of sewage entering the water pipes, which is an unhealthy situation and may result in situations where residents of that area may fall sick after consuming such water.

There are many areas or wards in Bengaluru City which are not supplied Cauvery water; these areas or wards have to rely solely on ground water for their needs or have to rely on private tankers for water supply. The problem with ground water is that of unregulated use and the sub-standard quality of ground water, it is also possible that over extracting groundwater has also affected the quality of groundwater. Not all areas or wards are blessed with ground water; these areas primarily depend on private tankers to get water for their needs. Dependence on private water tanker increases access cost to water for the residents of these wards. These residents are generally are from the less influential and lower income segment of the population, which increases their cost of living in the City.

It is clear that an improved and equitable water supply service can better the human development outcome in the City.

Sewerage

The issues with sewerage systems in the City are that of incomplete coverage; as a result of which many households connect their sewage lines to the storm water drains, which flows into the numerous lakes in the City, polluting them. Sewage entering storm water drains and lakes not only creates an environment hazard but also is a fertile breeding ground for mosquitoes. Since the health hazards from mosquitoes are well known, and the importance of health in human development has already been emphasized, we need not dwell more on the harm caused by these mosquitoes on the development potential of the residents of the City. BWSSB has not been able to keep pace, in terms of setting up the sewerage network, with the rate of increase in settlements, and this has created numerous other health problems. One of the main problems is lack of public awareness on the importance and need to dispose sewage appropriately. Drainage and sewerage are two areas that cry for urgent attention not only in Bengaluru City but whole of urban India.

It is thus clear from the brief summary above that due to numerous issues in sewerage, there are many residents in the City who are deprived from achieving their true development potential.

11.4 Solid Waste Management

Though present day life gives opportunities

to citizens, especially urban dwellers, it also throws up challenges, responses for which need coordinated action from numerous fronts. One such challenge is dealing with the solid waste that is generated in today's urban areas. There are three stages if one looks at the cycle of the waste: Generation, Collection, and Disposal. As a nation develops, it reflects very well on the nation if its citizens generate lesser waste. Our service providers are concerned with collection and disposal. The waste generated among the various zones of BBMP can be seen from table 11.1. This is the waste collected in the month of February 2013.

With respect to the total sold waste generated collected in a month, it can be seen that waste generated in East, West, and South zone is much higher than those generated in other zones. This is also reflected in the zonal average weight per day. As one looks at the zonal average weight per day per ward, it becomes clear that East, West, and South zone generate high waste because of 44 wards in each of them; but if one looks at the average weight per day per ward, the amount of waste generated in East, West, and South zone is lesser than that of other zones. For example, Mahadevapura zone which is a collection of 17 wards generates waste of 23.5 MT per day per ward compared to 16.3 MT per day per ward of South zone.

The waste that would be generated would consist of not only household waste but also many other forms of waste including those from hotels and construction. However, just to get an idea of the amount of waste generated per day per ward and per person, let us divide the average weight of waste generated per day per ward (17.07 MT) by the average population in a ward (42645) of Bengaluru City as per 2011 Census to get the average weight of waste generated per day per ward per person which comes out to be 400.2 grams. This is much lesser than that of a developed country; hence one shudders to think what kind of waste management strategy would be required to handle the huge amount of waste generated as the country further

Table 11.1: Waste generated across zones in February 2013 in Bengaluru City, MT

Zone	Total Weight	Zonal Average weight/per day	Zonal Average weight/ per day/per ward
Bommanahalli (16-wards)	9075.5	324.1	20.3
Dasarahalli (8-wards)	3686.4	131.6	16.5
East Zone (44-wards)	25317.4	904.2	20.5
Mahadevapura (17-wards)	11238.6	401.4	23.6
R.R.Nagara (14-wards)	4351.7	155.4	11.1
South Zone (44-wards)	20142.8	719.4	16.3
West Zone (44-wards)	24385.6	870.9	19.8
Yelahanka (11-wards)	2594.0	92.6	8.4
Total waste for all zones	100792.1	3599.7	-

Note: MT is metric tonnes

Source: BBMP

develops. One is forced to make such an observation because very recently there have been huge protests from people living near dump sites near Bengaluru City complaining about the health hazards faced by them. One of the root causes was the lack of segregation at source; BBMP has made numerous attempts at increasing public awareness on this very important issue, but the response of the general public leaves much more to desire. When BBMP came up waste processing plants in the City, there were even protests from City dwellers opposing a waste segregation plant in their backyard. Thus it is very clear that the City and a majority of its dwellers are not ready to segregate, reduce, and treat their waste in their backyard.

This clearly shows some reluctance on part of the City dwellers in reducing, segregating, and processing their waste within their City, as they consider garbage as unwholesome. The same City dwellers are comfortable is their waste is dumped in nearby villages, without on any thought of how this would affect the human development of people living close to the landfills.

11.5 Roads & Transportation

Mobility is what distinguishes an urban area from a rural area. Road and rail are the two important forms of mass transportation used in today's cities. Bengaluru City has an extensive road and rail network; it also is developing a metro rail network. As per information from BBMP, in 2011-12, Bengaluru City had 1252.5 kilometres (kms) of water bound macadam, 7328.8 kms of bituminous, 1065.4 of concrete, and 2166.1 kms of mud road. Thus the total road length in Bengaluru City was 11812.4 kms.

Bengaluru also has an extensive conventional rail network, through which some skeletal train services are provided connecting important locations of the City. Given that the investments have already been made in setting up a conventional rail network that touches various points in Bengaluru City, urban mobility experts agree that there is huge potential in starting a suburban train network which will benefit the residents of the City.

The rail network for transportation within the City is primarily in the form a metro, which is a recent introduction into the City's landscape, with services being run in one part of the City which have been recently extended to one more part of the City. When it comes to rail services, first and last mile connectivity is very important it is here that work needs to be done in the City. There are metro feeder services run by the Bengaluru Metropolitan Transport Corporation (BMTC) to metro stations, but only time would tell if this will become the most popular first and last mile connectivity options.

BMTC is the main provider of road transport in Bengaluru City. With a fleet of around 5000 buses, BMTC undertakes thousands of trips in a day, which makes it the foremost means of transportation available for the common man in the City. BMTC serves the trunk routes of the City very well; it also has services to almost all the residential areas, making it very effective. As one moves from

the trunk routes to the roads that lead to the residential areas, the roads get narrow; this leads to congestion and huge traffic jam, which makes the travel of the common man very time consuming and cumbersome. As the City expands these are the areas where the migrant population moves in, subsequently these residential areas need to remain well connected to the business centres so that economic activity can continue. However, what is required is that the long travel time and congestion needs to be reduced so that the residents can achieve their human development potential.

Bengaluru City has also seen an exponential growth in the registration of vehicles with more than 40 lakh vehicles being registered in the City. This is another reason for the increasing congestion in the City. Given the increasing volume of traffic, it can be said that no amount of road network would be enough. The haphazard parking of vehicles further reduces the road width, which decreases the speed of traffic. Lack of footpaths is another reason for the slow traffic. Research in urban studies has highlighted that average traffic speed in Indian cities is slower than riding a bicycle and Bengaluru City is no exception to this finding. In some sense this reflects a lack of discipline among the residents of the City, which is one of the main reasons for the traffic congestion problem the City faces. Other factors include: poor traffic management, lack of proper infrastructure, low fines, and bad roads. It can be seen that quite a few factors are due to the lack of awareness among the residents of the City, which can be increased with more awareness programmes by the government as well as by citizen initiatives.

11.6 Civic Amenities

Parks and playgrounds

Compared to their rural counterparts, urban centres are densely populated; this increases the craving for open spaces in the City, which also serve as lung spaces for the City. Since outdoor activity is important for maintaining human health, it is very important that such spaces are planned for in every part of the City. Among the major civic amenities required, especially for children and elder citizens in urban areas, are playgrounds, open spaces, and gardens or parks. These are essential for children to grow up healthy so that they can help in strengthening the foundation of our society. Data from BBMP informs us that there are almost 20 wards where there are no playgrounds, open spaces, gardens or parks; assuming an average population of 42645 this implies that a tenth of the population of Bengaluru City has to travel to other wards to enjoy a stroll in a park, enjoy the air in an open space, and watch some sports in a playground. For the City as a whole, the playground area available per person in square meters is 0.116, while the open space area available per person in square meters is 0.064, and the parks area available per person is 0.407 square meters. There are 95 wards that do not have playgrounds, there are 96 wards where there are no open spaces, and finally there are only 33 wards which do not have a park or garden within their wards. Thus in Bengaluru City, parks or gardens seem to

be given preference as there are lesser number of wards that do not have them, compared to those that do not have playground or open spaces. Ward number 169, Byrasandra has the maximum playground area of 1.179 square meters available per person. Ward number 160, Rajarajeshwari nagar has the maximum open space area of 1.231 square meters available per person. Ward number 4, Yelahanka Satellite town has the maximum park area of 2.993 square meters available per person.

Picture 11.1 Lalbagh in Bengaluru City



Photo Courtesy: Department of Horticulture, Government of Karnataka

Bengaluru City is also called as the Garden City, this is not without a reason, the City has two big gardens - Lalbagh and Cubbon Park- which are two major green areas for the City. The City is also known for its large parks and open spaces in addition to tree lined avenues. The palace grounds and the golf course are other two important green spaces in the City. The then Bengaluru also had more than 400 lakes, interlinked by a system of canals that followed the natural gradient of the land in which excess water from one lake would flow through waste-weirs into the next lake/tank, thereby preventing flooding. This system was maintained for a long time, which, however, has been lost in recent times.

Bengaluru City is also blessed with lakes, a majority of which have now vanished due to the incessant construction activity. However, there are few lakes like the Ulsoor lake, Lalbagh lake, and Sankey tank which have been well maintained and serve the recreational purposes of the residents who stay nearby.

This analysis makes it clear that the distribution of the civic amenities is not uniform; resulting in overcrowded old neighborhoods, relatively planned layouts and unplanned new settlements. Thus there is scope for improvement for the City in providing these civic amenities to its residents.

Air quality

Air quality is an aspect that also needs to be monitored in an urban environment. There are numerous activities in the City that contribute to the pollution, but emissions from vehicles probably contribute more than others. Evidence from tests conducted by Karnataka Pollution State Control Board (KPSCB) at Mysore road and Whitefield road in the City, for a period of ten years preceding 2008-09, show that though the emissions of sulphur dioxide, and NOx confirm the set standards; the emissions of particulate matter are much above the standards and need correction. Another test conducted by KPSCB at four different locations in the City showed that concentration of particulate matter and NOx was found to be 2 to 5 times the permissible national limits. The test also found toxic metals in the particulate matter emissions. Thus one can with confidence assert that the air quality in Bengaluru fails to meet global standards. Though not quantifiable this has its implications on human development in the City, particularly on the health of children and the elderly residents of the City.

11.7 Concluding Remarks

In this chapter we have outlined for Bengaluru City, the issues in water supply, sewerage, drainage, solid waste management, roads and transportation, and civic amenities. The rapid growth of the City has increased incomes but has led to tremendous inflow of people, increased the construction activity, and increased the traffic. The cost of the haphazard growth has been through an increase in the number of health issues, which has affected all the residents of this City. The only way out of this situation would be to increase awareness among the residents on the various issues that have cropped up due to the indiscriminate growth. Though action is required from numerous service providers, the need of the hour is active involvement of the citizen so that the problems that have cropped up are controlled and resolved. This will ensure all round human development of the residents of the City.

12 Way Forward









12.1 Introduction

In this district level human development report we began with an overview of the district; this was followed by the status of education, health, and income of the district. Standard of living of the population of the district, gender and SC/ST issues were then looked into in some detail. The report then discussed the importance and status of governance in the district, followed by a look at the urban issues faced by the district. The aim of this chapter is to summarize the findings of the report and if possible suggest areas where policy can concentrate to improve the human development outcome in the district.

12.2 Discussion

Outline of HD and its Measurement as indicated by different indicators

For the purpose of this report human development index for Bengaluru Urban district was constructed using 11 indicators; the indicators have already been discussed in the first chapter. These 11 indicators can be grouped into three components: education, health, and livelihood/quality of living. All the comparisons and numbers below are for the year 2011-12.

Educational Component

Literacy and gross enrolment rate are the two indicators in the education component. At 88.7 per cent Dakshina Kannada has the highest literacy rate in the State. The district level literacy rate for Bengaluru Urban district is 87.7 per cent, which is not very distant from the best in the State. As expected Bengaluru City has a high literacy rate of 88.7 per cent, followed by Bengaluru North at 80.8 per cent, Anekal at 80.7 per cent, Bengaluru East has a literacy rate of 79.4 per cent followed by Bengaluru South at 78.4 per cent. This clearly tells that the four rural taluks have a lot of catching up to do.

The gross enrolment rate for Bengaluru Urban district is 108.3 per cent, the best in State is for Gulbarga district which has a gross enrolment rate of 119.5 per cent. With respect to the taluks, Bengaluru East at 126.3 per cent has a much higher gross enrolment rate, while Bengaluru South (117.7 per cent) and Anekal (116 per cent) are closer to the best in the State. Bengaluru North (108.3 per cent) and BBMP (107.4 per cent) are not very far from the best in the State.

Health Component

Child mortality rate (CMR) and maternal mortality rate (MMR) are the two indicators in the health component. Udupi has the lowest CMR of 13 in the State, with a CMR of 17 Bengaluru Urban district is not very far from Udupi. However, there is variation in the CMR of the taluks of Bengaluru Urban district, which requires attention. Similarly, at 73 the MMR of Bengaluru Urban district is distant from the State lowest of 50 (Udupi). Once again, there is variation in the MMR of the taluks of Bengaluru Urban district, which is a matter of concern.

Livelihood and Quality of Living Components

A list of the seven livelihood indicators can be seen from the first chapter. These

indicators deal with income, per cent of non-agricultural workers, drinking water, housing, sanitation, access to electricity and modern cooking fuel. For these seven indicators, compared to other districts Bengaluru Urban district has among the maximum values in the State; however, even the district has some way to go before it achieves the maximum possible values for these indicators. The values for Bengaluru Urban district can be seen from Annexure 5 of the report.

Combined HD Analysis of the District

Bengaluru Urban district houses Bengaluru City, which is the capital of the State of Karnataka, thus the infrastructure available in the district is better than most of the other districts in the State. Bengaluru City also is a leading centre in the country for information technology and bio-technology firms. The City also has numerous public sector companies as well research centres, thus the number of opportunities in Bengaluru is higher than that available in other parts of the State. Thus it is no surprise the district leads in the livelihood/ quality of living indicators.

The district, for its size, also has done a good job with respect to literacy rate and gross enrolment rate. Since a substantial proportion of the population cannot afford private health care, providing public health services to such a huge population is a challenge. There is much work to do with respect to health services so that CMR and MMR both come closer to the lowest in the State.

Regional Disparity of the present HD situation in the District

Human development index (HDI) is a relative measure; we can measure human development of taluks across the state or that of the district across the state. The maximum and minimum in such cases would be the maximum and minimum in the group that has been selected for comparison. Thus if one wants compare human development of taluks within district, all one has to do with take the maximum and minimum values of the taluks and construct the index. If one does this exercise for the taluks and BBMP in Bengaluru Urban district then the results are as shown in table 12.1.

In terms of living standard, Bengaluru City or BBMP has the best index value followed by Bengaluru North, Anekal, East, and South. This is very apparent to people who have travelled across the district, the facilities and the opportunities available in Bengaluru City cannot be matched by the rural taluks. Given the growth path the country is taking this is bound to happen. We are probably the only economy or among the very economies of the world which is trying to switch from a agricultural economy to a services led economy. Bengaluru City is one of the service sector growth centres for the country, as a result we have a situation of influx of people with different kinds of skills not only from within the state of Karnataka but also across the country. With respect to the Health index, Bengaluru South fares the best followed by East, North, BBMP, and Anekal. This is understandable as providing health services

to the huge population of Bengaluru City is indeed a very challenging task. The task is challenging because it is not only a case of providing infrastructure but also a case of finding trained manpower to serve people of the City. Given the rapid growth of the City, it will require a lot of planning and coordination to meet these challenges. In addition many complicated medical cases come to Bengaluru City, from other parts of the State and the country, to access the superior medical facilities it offers, thus it could be possible the low health index is the outcome of these possibilities. This is not to say that with respect to provision of health services in Bengaluru City there is no room for improvement.

Bengaluru East turns out to have the best education index followed by Anekal and BBMP. Bengaluru South is ranked fourth in the education index while Bengaluru North is the distant last. As we have seen earlier, Bengaluru East has the highest gross enrolment ratio in the district and thus this reflects in its education index. Given the huge population of Bengaluru City the education index of the City is better than that of Bengaluru North and Bengaluru South, this clearly indicates the importance given to education by residents of Bengaluru City to education. Educational outcomes of the district can get better if there is a spillover of this awareness from Bengaluru City to its surrounding taluks.

The composite index which is the HDI tells us that Bengaluru East leads the way followed by Bengaluru South, BBMP, Bengaluru North, and Anekal. The general perception in the district of Anekal being a backward taluk is confirmed by the index, it is clear that there is some amount of work to done in Anekal taluk. Surprisingly BBMP is ranked third in the district; the reasons for which are not easy to fathom and can be due to numerous factors, one of which could be measurement errors. Another reason is the low health index, which as discussed above is a huge challenge that needs planning and coordinated efforts from all the stakeholders. There are also some lacunae in providing educational services to the residents of Bengaluru City which needs to be improved for better outcomes.

Way Ahead

Future HD Strategy for the Education Sector

Bulk of the enrolment in the district is in private unaided schools, this is despite the fact that these schools have among

Table 12.1: Human Development and dimensional indices for taluks and BBMP in Bengaluru Urban district

	Living Standard	Health	Education	HDI
Anekal	0.48	0.25	0.60	0.42
BBMP	0.98	0.27	0.60	0.54
Bengaluru East	0.42	0.76	0.70	0.61
Bengaluru North	0.52	0.40	0.47	0.46
Bengaluru South	0.37	0.84	0.55	0.56

the highest pupil to teacher ratio, the reasons for this preference need to be understood so that policy can help in attaining better educational outcomes. One of the reasons that has come to the fore is that, parents, having seen the boom in the software sector are preferring to send their kids to English medium schools. To cater to this huge demand a number of private unaided schools have come up in the district. The relatively lower ranking in SSLC pass percentage calls for support to SSLC students of the district in form of extra classes. There could also be some social phenomenon at work which needs to be find out and addressed at the appropriate level. Thus there needs to be a strategy to improve the SSLC pass percentage of the district. There is much work to be done in terms of improving the infrastructure in the schools of Bengaluru Urban district. This is indeed a challenge and requires coordinated effort from numerous departments to ensure that all schools in the district have the necessary infrastructure in place. The expenditure on education by the Zilla Panchayat is way below prescribed standard norms; hence, there is an urgent need to increase the district expenditure on education.

Future HD strategy for Health Sector

Given the huge population of Bengaluru City, the magnitude of challenge faced by BBMP while providing the health services, compared to other taluks in the district, is the maximum. People from nearby districts also prefer Bengaluru City for its health services, this only compounds the challenge. The lacunae in health services to pregnant women and the per cent of children born under-weight are few examples where BBMP needs to improve. BBMP also needs to improve on parameters such as number doctors and nurses available per 1000 population by increasing the number of health centres as well as recruiting more doctors and nurses. Lacunae in the state health delivery system are filled up by the thriving private health care industry; this though desirable is not ideal given the high cost involved and the lack of social security in the country. Looking at the gender ratio in the district it is apparent that there is a need to increase the awareness on the importance of the girl child among the residents of the district. Lack of adequate health services affects the urban and rural poor the most. This is because, poor people more often than not cannot afford private health care. A probable way forward could be opening up of more government health centres in places where the concentration of the poor is the highest. These centres can also be used to communicate to the poor the importance of the girl child.

Future HD Strategy for Livelihood Sector

A majority of the households in district do not own land; in Bengaluru South more than three-fourths of the households do not own land. Thus the dependence on other activities for livelihood has increased. District and taluk officials need to be aware of this fact. Policies at the district level should be tuned to create more jobs in the non-agricultural sector. From 2001 to 2011, the share of marginal workers in the total workforce has increased from 7.3 per cent

to 9.1 per cent, while the share of main cultivators, main workers in household industries, and main Other workers have decreased. One fourth of the families in the district hold BPL cards, this shows that a significant proportion of the population in the district is yet to come out of the poverty trap. Due to the numerous opportunities provided by the City, the number of households availing 100 days of work in the rural employment guarantee scheme is very low; this indicates that they get better wages in doing other economic activities like construction. This emphasizes the need for an urban safety net so that the marginal workers have something to lean on during the downturn in the economic cycle. One can also safely conclude that there is lot of work to do in the district which hopefully will improve the income and employment opportunities for a significant proportion of the population.

Future HD Strategy for Dalits, Tribals, and Minorities

The proportion of SC's and ST's living in urban areas, as per Census 2011, has increased drastically. Thus policies focussing on SC's and ST's need to have greater urban orientation than earlier times. At the district level, gender ratio for SC and ST has increased indicating changing social practices. The gender ratio for the ST community in the wards of Bengaluru City has high variation and this seems to be a reason for worry. Thus SC's in the district seem to be changing in their preference for the girl child, this needs to be supported; while among the ST's in the City, the preference for the girl child needs to be better understood. The gender ratio in the SC community in the wards of Bengaluru City, on an average, is better. Surprisingly the literacy rate of ST's at the district level is better than that of the SC's. This clearly indicates that increasing literacy levels among the ST's has not contributed to better outcomes with respect to gender ratio, especially for those living in the City. Thus there is a need to increase awareness among the ST community in the City on the importance of the girl child. The number of SC boys and girls who drop out of the education system after class 10 is substantial. This trend is also seen among ST boys and girls. Thus education policy with respect to SC and ST needs to be sensitive and fine tuned to counter the social phenomenon that forces SC and ST boys and girls drop out of school. District and taluk level authorities need to be made aware of this fact. Efforts should also be made to understand the social phenomenon which is bringing out this situation. It is also seen that on the basis of house ownership, SC households in the district seem to have better asset status than ST households in the district. Sanitation practices of the ST's are better than that of the SC's, this is true both in the rural as well as urban areas of the district. This implies that SC's more than ST's in the district need to be made aware of the importance and benefits of better sanitation practices. Better asset status of the SC's has not helped them understand the importance of better sanitation practices. Skill level of the ST's need to be increased so that they are able to attain a better asset status.

Future HD Strategy for Gender Development

The change in the gender or sex ratio from 2001 to 2011 for Bengaluru Urban district has been very gradual or probably a reluctant shift. This highlights the importance of creating awareness, on the importance of the girl child, through public debate and discussion, and other channels of communication including the media. Female literacy rate in Bengaluru City is yet to catch up with the male literacy rate. There are 61 wards in Bengaluru City that have female literacy levels less than the district average of 84 per cent, which is a reason for concern. This clearly shows there is lot of work to be done with respect to increasing female literacy rate not only in other sub-districts but also in the wards of Bengaluru City. We are however unable to tell more about the factors responsible for the lower level literacy levels among females in the City, which in our opinion, is the subject for a separate study. Progress with respect to enrolment of girl child in schools seems to be satisfactory, highlighting the good work done by the department and the district officials. At the district level though there is increasing female participation in the labour force, the increase is more in the form of marginal female workers, which given the lack of social security in the country is not a desirable outcome. Women are represented well in Gram and Taluk panchayats as well as Zilla Panchayat of Bengaluru Urban district. Representation of women in Urban Local bodies in the district has remained below 40 per cent, suggesting that there is room for improvement. Women in Bengaluru seem to be enthusiastically participating in SHGs, which is a heartening feature. Once again a special drive to create more awareness among the urban and rural poor on the importance of a balanced gender ratio as well improved female literacy levels can work wonders to the society. For the special drive, district level authorities can pick up those areas where the concentration of poor people is the highest.

Future HD Strategy for other sectors

As per Census 2011, around 87 thousand households in the district do not have access to houses and were living in any other means. Even among those households who live in houses there are around 1.5 lakh people in the district who live in dilapidated housing and probably need help from the government. This clearly shows that housing policies for the rural and urban poor in the district need special emphasis. Households in the rural and urban part of the district show different features with respect to the assets they own. For example, a larger proportion of households in rural areas of the district tend to own bicycle than those in the City, this seems likely due to better transportation facility in the City. The proportion of households owning no assets is much lesser in the City compared to that of rural areas. Thus the proportion of rural poor is higher than the proportion of urban poor, though, in absolute numbers it may be the other way round. This also points out to the need or renewed emphasis on rural poverty alleviation schemes in the district. There are almost a million people in the district who have to walk quite a bit

from their homes to get their daily share of drinking water. 3.2 per cent of households in Bengaluru City do not have latrine within premises, which by any extent is not a magnitude that can be brushed under the carpet, especially as the area is primarily urban and can quickly lead to unhygienic conditions. Given the preference in rural taluks of using open spaces as toilets, policy emphasis on provisioning of facilities may not be enough and people need to be made more aware about the health outcomes of better sanitation practices and the disadvantages of the lack of it. This clearly indicates that sanitation practises of both the urban and rural parts of district have scope for improvement. District authorities need to focus on increased awareness and then better facilities. If the solution is common facilities, there is also a need of local groups that would maintain these facilities. This clearly shows that more efforts are needed to improve the standard of living of these people.

There urban issues with regard to water supply, sewerage, drainage, solid waste management, roads and transportation, and civic amenities. The rapid growth of the City has increased incomes but has led to tremendous inflow of people, increased the construction activity, and increased the traffic. The cost of the haphazard growth has been through an increase in the number of health issues, which has affected all the residents of this City. The only way out of this situation would be to increase awareness among the residents on the various issues that have cropped up due to the indiscriminate growth. Though action is required from numerous service providers, the need of the hour is active involvement of the citizen so that the problems that have cropped up are controlled and resolved. If a sense of ownership and belonging to the City is created among its residents, then a lot these issues will be solved on their own by the residents of the City. This will ensure all round human development of the residents of the City.

12.3 Concluding Remarks

Education, health, and standard of living/ income are three important components that help transform a human development potential to its rightful outcome. Bengaluru Urban district has many opportunities as well facilities that are helpful for human development. Given the huge population of the district, efforts are required in the education and health sectors so the people residing in the district realise their true human development potential.

Annexures

Annexure 1

Data Availability and Quality

In the current district human development report, as we know, 126 indicators had to be computed for each taluk in the district. This implies that for Bengaluru Urban district which has four taluks and BBMP, we had to compute more than 600 indicators. Getting data for all the 600 indicators was probably the most time consuming exercise in the project. Though efforts were made to get data for all the indicators there were some indicators for which data was not available. In addition to getting data there were other problems, for example, mismatch in the way administrative boundaries were defined across data sets. This turned out to be the bigger problem, as we had to be consistent across datasets. In this annexure we try to explain the numerous problems we faced while getting the required data.

Problems with Census data

The main database for the study is Census. Bengaluru Urban district is divided by Census 2011 as Anekal, Bengaluru North, Bengaluru South, Bengaluru East, and BBMP (marked by tehsil code 99999). Census 2001 on the other hand classified Bengaluru Urban district as Bengaluru North, Bengaluru South, Anekal, Bengaluru Municipal Corporation and seven CMC's and Kengeri TMC. There was no Bengaluru East and BBMP in 2001, thus comparison between 2001 and 2011 is not possible. Thus data availability with respect to Bengaluru East and BBMP for 2001 was a huge concern for the report. We were able to hypothetically construct BBMP for 2001 but were unable to do that for Bengaluru East. The lack of availability of data for Bengaluru East affected the analysis but not the calculation of the 126 indicators.

Handling census towns was another problem, this was because census town are not recognized towns, and hence as per directions from the Zilla Panchayat, census towns were considered as rural areas. Thus it is quite possible that the rural taluks in Bengaluru Urban district have better indicators than that of other rural taluks in the State.

Overlapping Administrative boundaries

There is also the problem of overlapping of administrative boundaries: for example, all the wards of Bengaluru City do not come under the jurisdiction of BBMP health department, there almost 60 or more wards that come under the jurisdiction of Bengaluru South and Bengaluru North taluk health offices. Thus the data collected from these sources does not have a one to one mapping with that of the Census. Here there was not much that one could hence we had to go ahead with the data given by the respective authorities.

Different Classifications

Education data available with the education department of the Bengaluru Urban Zilla Panchayat also had a similar problem; there are two blocks in Bengaluru Urban

district: Bengaluru North and Bengaluru South. Bengaluru North is sub divided in to North 1, North 2, North 3, and North 4; while Bengaluru South is sub divided in to South 1, South 2, South 3, South 4, and Anekal. Once again the data collected from these sources does not have a one to one mapping with that of the Census. This did not affect the computation of the 126 indicators as we took efforts to segregate the data as per the Census classification. For the chapters, however, we used the data as provided by the Education department and did not attempt to classify them as per the Census.

Per capita income is among the most important indicators required for the calculation of the human development index. Computing per capita income for BBMP was another challenge; DES of GoK does not compute the domestic product for the BBMP area, DES computes income for Bengaluru Urban district on the basis of its computation for Bengaluru North, Bengaluru South, Bengaluru East, and Anekal revenue taluks. It must be mentioned that these revenue taluks do not have a one to one mapping with that of the administrative taluks defined by the Census. It can be seen that Anekal has the highest per capita income in the district, which is in contrast to the backward nature of the taluk. This is due to the methodology followed by the DES, there are many industries in Anekal taluk and given the lower population of the taluk, the per capita income of Anekal is bound to be high. For the purpose of computing the human development index, the per capita income of BBMP was statistically computed from the numbers given by DES, GoK. The statistical method used was discussed with core group of experts involved with DHDR as well as officials from DES, GoK.

Unavailability of data

Data for all indicators required to compute HDI, GII and CDI was available. However, with respect to UDI, we were unable to find data for percentage of households without own houses in Anekal TMC. Many of the indicators for FSI are not applicable for BBMP. For example - Cropping Intensity, Percentage Change in NSA (Net Sown Area) over the years (2001 – 2011), Per capita food grain production in Kg, Irrigation Intensity, Percentage of area degraded to total geographical area, and Percentage of leguminous crops in the gross cropped area. Similarly, with respect to CTDI, since Bengaluru North, South, and East are rural taluks there are no slums in these taluks as well no urban local bodies. Data on percentage of siteless households was available from a survey held in 2003 and that too only for three of the four taluks; information on the percentage of siteless households and the percentage of households provided with housesites for BBMP was not available.

Annexure 2

Process of DHDR Preparation

The process of the preparation of the district human development report had four major components: training, data collection, data validation, analysis and report writing.

Training

Two training modules were organized, one in the initial stage of the project and the second in the middle of the project. The first training was for all the government officials of the district as well as the lead agency. The second training was a technical one only for the lead agency and few selected officials of the district. The first training and the guidelines supplied helped in creating awareness among the officials of the district, which helped in the process of data collection. The guidelines document is important as it explains all the necessary concepts required for the construction of the various indices, as well as spells out clearly the expected outline and the structure of the report.

Data Collection

Data was collected from various departments by giving them a pro forma, which helped them understand our data needs and accordingly provide the necessary data. Census data availability was not a problem as most of the Census data was given by the Human Development Division, Planning Department, GoK. Data from Health as well as Education department of Zilla Panchayat was also quick to come in. Education data had to problem of different classification, hence there was numerous rounds back and forth with the department officials as the classification had to be consistent with that of Census data. Getting response from BBMP was probably the most challenging as well as maximum time consuming activity. An attempt was also made to compute HDI at the ward level but BBMP could not provide the required data, as a result the initiative to compute HDI at the ward level was dropped.

Data Validation

The data that was collected was validated by a three step process - first raw data was checked, followed by check with CPO of the Zilla Panchayat, and check with line department. For the final validation of the data, a DCC meeting was held on 23rd April 2014 to discuss the 126 indicators that were computed on the basis of the collected data.

Analysis and Report writing

Since data collection and validation was taking a lot of time, hence in the interests of meeting the deadline, the process of analysis of the data and writing of the chapters was simultaneously done with the process of collection and validation of data. The Karnataka State Human Development Report (2005), India Human Development Report (2011), Delhi Human Development Report (2013), Mumbai Human Development Report (2009), and the West Bengal Human Development Report (2004) proved to be very useful for the purpose of analysis and the writing of the chapters.

Annexure 3 - Indicator values of the various indices

District - Bengaluru Urban							
Sl. No	Indicators	Anekal	BBMP	Bengaluru East	Bengaluru North	Bengaluru South	District
Indicators for Human Development Index (HDI)							
1	Percentage of HHs having access to Modern Cooking fuel	52.4	79.2	55.2	56.8	53.5	76.3
2	Percentage of HHs having access to Toilet	79.2	96.8	81.3	81.7	75.4	94.8
3	Percentage of HHs having access to Water	87.3	92.6	83.6	88.6	87.8	91.8
4	Percentage of HHs having access to Electricity	96.7	98.3	96.5	96.5	94.3	98.0
5	Percentage of HHs having access to Pucca house	77.9	94.3	78.1	80.4	76.9	87.9
6	Percentage of Non agricultural workers (main + marginal)	81.8	97.8	80.1	77.4	76.1	95.4
7	Per-capita Income at 2008-09 current prices	268479.8	145631	24416.5	128763.5	39154.7	147250.0
8	Child Mortality Rate	36	23	9	8	17	17
9	Maternal Mortality Rate	73	106	71	104	39	73
10	Literacy Rate	80.7	88.7	79.4	80.8	78.4	87.7
11	Gross Enrolment Rate (GER): (a) GER at Primary (b) GER at Upper Primary (c) GER at Secondary/High-School	116.0	107.4	126.3	108.3	117.7	108.3
Indicators for Gender Inequality Index (GII)							
12	Maternal Mortality Rate	73	104	71	104	39	73
13	Share of Institutional deliveries (ID)	99.95	99.93	100	99.93	99.89	99.95
14	Share of pregnant women with Anemia (ANE) %	17.5	29.2	11.8	29.2	2.5	19.2
15	Share of female elected representatives in PRIs and ULBs. (ULB, ZP, TP and GP))	41.5	45.1	44.6	45.1	44.6	42.8
16	Share of male elected representatives in PRIs and ULBs. (ULB, ZP, TP and GP))	58.5	54.9	55.4	54.9	55.4	57.2
17	Share of female children in the age group 0-6 years	49.2	48.5	49.4	48.5	48.1	48.6

District - Bengaluru Urban							
Sl. No	Indicators	Anekal	BBMP	Bengaluru East	Bengaluru North	Bengaluru South	District
18	Share of male children in the age group 0-6 years	50.8	51.5	50.6	51.5	51.9	51.4
19	Share of female literacy	73.8	85.4	72.3	74.0	71.3	84.0
20	Share of male literacy	86.2	91.7	85.7	86.8	84.5	91.0
21	Share of Female Work Participation Rate	33.1	27.3	28.3	27.6	32.7	27.7
22	Share of Male Work Participation Rate	74.8	69.1	70.3	69.3	72.2	69.5
23	Share of female workers in the non agricultural sector (NAGF) to Total Female workers	78.7	97.1	77.4	73.8	71.9	94.4
24	Share of male workers in the non agricultural sector (NAGM) to Total Male workers	82.9	98.1	81.1	78.6	77.8	95.8
25	Female Agricultural wage rate($WAGE_F$)	250	250	200	175	250	175
26	Male Agricultural wage rate($WAGE_M$)	300	300	250	275	300	300
Indicators for Child Development Index (CDI)							
27	Child Mortality Rate	36	23	9	8	17	17
28 a	Percentage of Children born under-weight	4.64	16.81	5.64	8.23	4.00	8.43
28 b	Percentage of Malnourished Children	18.3	30.1	43.3	26.9	24.4	28.9
29	Percentage of Primary and Secondary School Drop out Children mainstreamed	63.4	27.5	50.9	45.4	54.5	33.6
Indicators for Food Security Index (FSI)							
30	Cropping Intensity	104.3	Not applicable	106.1	102.2	103.1	103.5
31	Percentage Change in NSA(Net Sown Area) over the years (2001 – 2011)	-36.9	Not applicable	-30.6	-35.6	-57.6	-37.7
32	Per capita food grain production in Kg	28.7	Not applicable	36.5	53.6	100.2	6.4
33	Percentage of forest cover to total geographical area	4.2	0	3.6	2.3	3.5	2.3
34	Irrigation Intensity	102.4	Not applicable	122.9	110.9	118.3	110.1

District - Bengaluru Urban							
Sl. No	Indicators	Anekal	BBMP	Bengaluru East	Bengaluru North	Bengaluru South	District
35	Percentage of area degraded to total geographical area	1.6	Not applicable	2.3	1.9	2.5	2.0
36	Percentage of leguminous crops in the gross cropped area	9.5	Not applicable	13.1	10.7	12.6	11.0
37	Percentage of BPL Card holders to Total Card holders	80.1	40.1	66.6	70.3	59.7	54.2
38	Per-capita Income at 2008-09 current prices	268479.8	145631	24416.5	128763.5	39154.7	147250.0
39	Percentage of Non-agricultural workers to total workers	81.8	97.8	80.1	77.4	76.1	95.4
40	Average size of holdings	0.89	0	2.57	0.76	1.14	0.98
41	Percentage of Agricultural labourers to total workers	8.7	1.3	8.0	8.9	11.8	2.3
42	Percentage of villages having PDS outlets within the village	35.6	100	79.6	88.4	89.1	69.7
43	Child Mortality Rate	36	23	9	8	17	17
44	Percentage of HHs having access to Water	87.3	92.6	83.6	88.6	87.8	91.8
45	Share of pregnant women with Anemia (ANE) %	17.5	22.1	11.8	29.2	2.5	19.2
46 a	Percentage of Malnourished Children	18.3	30.1	43.3	26.9	24.4	28.9
46 b	Percentage of Children born under-weight	4.64	16.81	5.64	8.23	4.00	8.43
47	Female Literacy Rate	73.8	85.4	72.3	74.0	71.3	84.0

Sl. No	Indicators	Anekal TMC	BBMP Corporation	Bengaluru East	Bengaluru North	Bengaluru South	District
Indicators for Urban Development Index (UDI)							
48	Percentage of ULB population to total population in the taluk	31.9	100	Not applicable	Not applicable	Not applicable	Not applicable
49	Percentage of Households without Own Houses	63	63	Not applicable	Not applicable	Not applicable	Not applicable
50	Percentage of Slum Population to Total ULB Population	5.7	8.4	Not applicable	Not applicable	Not applicable	Not applicable
51	Water Supply – (Percentage of HHs with Tap water connection)	88.9	80.5	Not applicable	Not applicable	Not applicable	Not applicable

Sl. No	Indicators	Anekal TMC	BBMP Corporation	Bengaluru East	Bengaluru North	Bengaluru South	District
52	Sewerage/ Drainage – Percentage of HHs Sewerage and Drainage (Both Close and Open facilities)	93.0	97.2	Not applicable	Not applicable	Not applicable	Not applicable
53	No. of Hospital Beds per 1000 population in urban area	11	2	Not applicable	Not applicable	Not applicable	Not applicable
54	Percentage of Own Resource Mobilization to Total Receipts	115.9	14.5	Not applicable	Not applicable	Not applicable	Not applicable
55	Per capita expenditure on Development Works in Rupees	414.1	1658.8	Not applicable	Not applicable	Not applicable	Not applicable
56	Length of Roads in Kms per Sq. Km of geographical area	2.2	16.7	Not applicable	Not applicable	Not applicable	Not applicable
57	Crime Rate per 10000 Population	23	38	44	26	0	Not applicable
58	Road accidents per 10000 population	8	7	14	8	0	Not applicable

Sl. No	Indicators	Anekal	BBMP	Bengaluru East	Bengaluru North	Bengaluru South	District
	Indicators for Composite Taluk Development Index (CTDI)						
59	Decadal population growth rate	73.3	43.1	Not applicable	106	33.9	47.5
60	Population Density	972.9	11909.3	1068.8	719.2	538.8	4357.6
61	Sex ratio	835	923	911	895	879	916
62	Percentage of Slum Population to Total ULB Population	5.7	8.4	Not applicable	Not applicable	Not applicable	8.4
63	Percentage of Population in the age group of 0-6	11.4	10.9	12.7	11.5	11.7	10.9
64	Child sex ratio	967	942	976	943	928	944
65	Infant mortality rate(IMR)	11	18	12	7	29	15
66	Child Mortality Rate	36	23	9	8	17	17
67	Maternal Mortality Rate	73	106	71	104	39	73
68	Percentage of women headed households	9.5	9.9	9.1	11.6	12.5	10.0
69	Percentage of BPL Card holders to Total Card holders	80.1	40.1	66.6	70.3	59.7	54.2
70	Cropping Intensity	104.3	Not applicable	106.1	102.2	103.1	103.5

Sl. No	Indicators	Anekal	BBMP	Bengaluru East	Bengaluru North	Bengaluru South	District
71	Irrigation Intensity	102.4	Not applicable	122.9	110.9	118.3	110.1
72	Percentage of Households provided employment to total number of households registered under MGNREGS	6.4	Not applicable	3.3	14.3	0.4	7.6
73	Ratio of average agricultural wage to Minimum wages prescribed by the State	2.1	2.1	1.7	2.1	2.1	2.1
74	Work participation rate	56.0	49.1	50.4	49.7	53.8	49.6
75	Decadal Growth rate of Employment	97.5	61.9	-25.9	-53.6	-66.7	37.0
76	Percentage of Cultivators to Total workers	9.5	0.9	11.9	13.7	12.0	2.3
77	Percentage of main workers to total workers	89.7	91.1	86.2	88.7	89.5	90.9
78	Percentage of workers in Household Industries	3.0	2.5	4.4	2.4	3.0	2.6
79	Percentage of Agriculture labourers to Total workers	8.7	1.3	8.0	8.9	11.8	2.3
80	Percentage of HHs having access to Pucca house	77.9	94.3	78.1	80.4	76.9	87.9
81	Percentage of Site less Households	14.4	Not applicable	Not applicable	9.1	4.2	1.9
82	Percentage of Households provided with house sites	13.9	Not applicable	23.0	21.9	19.9	19.7
83	Percentage of Houses constructed for houseless poor families	34.3	Not applicable	39.0	70.5	40.5	52
84	Percentage of households with cycles	24.9	22.5	32.8	30.6	19.7	22.9
85	Percentage of households with two-wheelers	28.8	46.2	34.7	32.0	26.3	44.3
86	Percentage of households with no assets	6.2	2.1	6.0	6.1	8.4	2.6
87	Percentage of Households with electricity	96.7	98.3	96.5	96.5	94.3	98.0
88	Percentage of HHs having access to Modern Cooking fuel	52.4	79.2	55.2	56.8	53.5	76.3
89	Percentage of women elected representatives in rural local bodies	41.5	Not applicable	44.6	45.1	44.6	43.6
90	Percentage of women elected representatives in urban local bodies	39.1	36.4	Not applicable	Not applicable	Not applicable	36.7
91	Percentage of elected SC/ST representatives in rural local bodies	37.7	Not applicable	35.1	30.3	25.7	32.8

Sl. No	Indicators	Anekal	BBMP	Bengaluru East	Bengaluru North	Bengaluru South	District
92	Percentage of elected SC/ST representatives in urban local bodies	13.0	12.6	Not applicable	Not applicable	Not applicable	12.7
93	Percentage of active SHGs	68.1	68.1	68.1	68.1	68.1	68.1
94	Percentage of pregnant women receiving full ANC	90.9	100	100.0	97.6	87.2	99.2
95	Share of pregnant women with Anemia (ANE) %	17.5	22.1	11.8	29.2	2.5	19.2
96	Percentage of Institutional deliveries	100.0	100	100.0	99.9	99.9	99.95
97	Percentage of children fully Immunized	78.6	100	76	74	72	100
98	Percentage of Children born under-weight	4.64	16.81	5.64	8.23	4.00	8.43
99	Percentage of Malnourished Children	18.3	30.1	43.3	26.9	24.4	28.9
100	Percentage of people affected by major communicable diseases	0.1	0.3	0.5	0	0	0.3
101	Average Population served by sub-centres	11012	Not applicable	2503	2913	2932	4222
102	Average Population served by Primary Health Centres (PHCs)	39813	101731	8551	11013	10264	60135
103	Availability of Doctors per 1,000 population	0.74192	0.009829843	0.55552	0.13904	0.00000	0.06912
104	Availability of nurses per 1000 population	0.208665	0.013738094	0.740690	0.073776	0.341008	0.041157605
105	Average population served by Anganwadi centres (0-6 children+nursing mothers+adolescent girls+pregnant women)	162	1598	125	136	152	595
106	Percentage of villages having Anganwadis within a km. distance	100	100.0	100	100	100	100
107	Percentage of couples protected by any contraceptive method	60.1	2.2	59.9	70.0	64	25.2
108	Per capita Health Expenditure	1805.0	398.8	1805.0	1805.0	1805.0	1523.8
109	Percentage of Gram Panchayats Selected for Nirmal Gram Puraskar Awards to Total number of Gram Panhayats	12.5	Not applicable	22.2	13.3	26.7	16.3
110	Percentage of Households with toilets	79.2	96.8	81.3	81.7	75.4	94.8
111	Percentage of households with drainage facility	82.2	97.2	78.0	80.8	77.1	95.3

Sl. No	Indicators	Anekal	BBMP	Bengaluru East	Bengaluru North	Bengaluru South	District
112	Percentage of HHs having access to Water	87.3	92.6	83.6	88.6	87.8	91.8
113	Percentage of Literacy	80.7	88.7	79.4	80.8	78.4	87.7
114	Gross Enrolment rate – Elementary School	112.6	119.2	121.7	124.2	138.9	123.3
115	Net Enrolment rate - Elementary School	101.3	104.5	112.7	116.8	130.5	111.9
116	Dropout rate in Elementary education	0.2	0.3	0.4	0.5	0.1	0.3
117	Percentage of primary and secondary school Drop-out Children mainstreamed	63.4	27.5	50.9	45.4	54.5	33.6
118	Student – Teacher ratio for elementary education	22.0	27.1	21.7	25.0	21.2	25.6
119	Secondary school Gross Enrolment Rate (15-16 years)	88.5	94.6	107.6	95.6	110.5	94.8
120	Drop-out rate in secondary education	0.2	0.3	0.4	0.5	0.1	0.3
121	SSLC pass percentage	78.4	77.9	78.4	77.3	78.4	77.9
122	Student - Teacher ratio for secondary education	17.4	17.3	12.2	20.7	15.8	18.5
123	PUC pass percentage	62.6	62.0	62.1	61.9	62.1	62.0
124	School Infrastructure Index	0.902	0.877	0.8935	0.859	0.856	0.877
125	Per capita Education Expenditure	795	795	795	795	795	795
126	Percentage of villages having a Primary School within 1 km. distance	100	100	100	100	100	100

Annexure 4

Details on workshops and meetings

`

1) 4 Taluk level Workshops
   Anekal - 11/09/2013
   Bengaluru South - 12/09/2013
   Bengaluru East - 16/09/2013
   Bengaluru North – 12/11/2013

2) 5 District Core Committee meetings held on
   – 4/02/13
   – 26/03/13
   – 17/06/13
   – 9/10/13
   – 28/1/14
   Special meeting on 3/12/13 for BBMP departments

References

Census of India (2001), ' Bangalore Through the Ages', Department of Census, Government of India.

GOI (2008), 'Ground Water Information Booklet: Bengaluru Urban District', Central Ground Water Board, South Western Region, Ministry of Water Resources, Government of India, Bengaluru.

Government of Karnataka (2012), ' A Study on Child Labour in Bangalore Urban District of Karnataka', Government of Karnataka, Bengaluru.

Shashidhar, H. (2003), 'A History of Migration to Bangalore', Artha Journal of Social Sciences, 2(1), 70-84.

Heitzman, J. (2004), 'Network City: Planning the Information Society in Bengaluru', Oxford University Press, New Delhi.

IHDR (2011), 'India Human Development Report: Towards Social Inclusion', Oxford University Press, New Delhi.

Karnataka Human Development Report (2005), 'Karnataka Human Development Report 2005: Investing in Human Development', Government of Karnataka, Bengaluru.