

STATE OF URBAN HEALTH IN DELHI





**STATE OF
URBAN HEALTH
IN
Delhi**

About the Report

This report is an attempt to bridge the information gap on health of the urban poor in Delhi. The Urban Health Resource Centre has been designated as the nodal technical agency for urban health program by the Ministry of Health and Family Welfare (MoHFW), Government of India. Based on request of the MoHFW to develop reports reflecting health scenario of urban poor in select Indian states, UHRC analysed the National Family Health Survey (NFHS- 2) data to arrive at health estimates of the urban poor and additionally undertook analyses of policies and programs aimed at improving health of urban poor in the state. This report is part of a series of state Urban Health Reports for better informing the urban health programming efforts in the respective states.

This report has been prepared by Dr. Siddharth Agarwal, Mr. Anuj Srivastava, Dr. Biplove Choudhary and Dr. S. Kaushik for the Ministry of Health and Family Welfare.

For additional copies / information contact:

Urban Health Division

Room No. 520 "A" Wing
Ministry of Health and Family Welfare,
Nirman Bhavan,
New Delhi - 110001
Phone : 23061656, Fax : 23063523
E-Mail : dirds@nic.in

Urban Health Resource Centre

F – 9/ 4, Vasant Vihar, New Delhi – 110057
Phone : 41010920, 26149771 / 81, Fax : 41669281
E- Mail : info@uhrc.in, Website: www.uhrc.in

About UHRC

The Urban Health Resource Centre is working towards addressing health issues of the urban poor in partnership with the government and civil society. It provides technical assistance and generates and disseminates urban health information to address knowledge gaps on the health of people in disadvantaged slum settlements. Demonstration and research activities conducted by UHRC in diverse cities provide evidence-based inputs for strengthening programming efforts of government and non-government agencies. UHRC advocates, at various platforms, for enhanced attention to the health of the urban poor.

UHRC evolved as an independent non-profit Indian organization from the USAID-funded Environmental Health Project in India. The urban health activities of UHRC are sustained through continued support from USAID.

This publication of this report was funded by the United States Agency for International Development. However, the views expressed in this report do not necessarily reflect those of the USAID.

Contents

List of Tables / List of Figures	iv
Foreword	v
Acknowledgements	vii
Abbreviations and Acronyms	viii
Executive Summary	x
Section 1 : HEALTH OF THE URBAN POOR- INDIA'S EMERGING PRIORITY	
1.1 India's Urbanization and Urban Poverty	3
1.2 Importance of Focusing on the Health of the Urban Poor	4
1.3 Why are the Urban Poor Vulnerable	4
1.4 Government of India's Focus on Health for the Urban Poor	6
Section 2 : URBAN POVERTY, POLICIES AND HEALTH AND NUTRITION SERVICES IN DELHI	
2.1 Delhi: The Urban Poor Scenario	11
2.2 Policies Aimed at Improving Housing and Basic Services for the Urban Poor	14
2.3 Health and Nutrition Services in Delhi	30
2.4 Situation Analysis of Shahdara North and Narela (Municipal Zones of Delhi)	39
Section 3 : HEALTH AND NUTRITION CONDITIONS AMONG THE URBAN POOR IN DELHI - RE-ANALYSIS OF NFHS 2 (1998-99) DATA	
3.1 Overview and Methodology	49
3.2 Background Characteristics of the Urban Poor in Delhi	50
3.3 Neonatal, Infant and Child Mortality	52
3.4 Childhood Morbidities and Health Services	55
3.5 Nutritional Status of Women and Children	61
3.6 Maternal Health	67
3.7 Fertility and Family Planning	71
3.8 Tuberculosis	75
3.9 Malaria	76
3.10 Environmental Health Conditions	78
Conclusion	82
Annexes	
Annex 1 Validity of using low SLI as representative of the urban poor	88
Annex 2 Selected health indicators by Standard of Living Index (Delhi)	93
–NFHS 2, 1998-99 Age distribution of population by standard of living	
–Delhi NFHS 2, 1998-99 Population Profile by standard of living– Delhi NFHS 2,1998-99	
Annex 3 Selected health indicators by Standard of Living Index (Delhi)	98
–District Level Household Survey, 2002-2004	

List of Tables

Table 1	Factors Contributing to the Health Vulnerability in Slums	5
Table 2	District wise decadal growth of population in Delhi	11
Table 3	Population by types of settlements in Delhi	14
Table 4	List of Plan / Schemes for J. J. Clusters	22
Table 5	Primary Health Facilities in Delhi	32
Table 6	Number of households, ever-married women and children under 3 years by SLI (weighted) covered in NFHS-2 in Delhi	50

List of Figures

Fig 1	Health and Basic Services Availability in Slums of Indore by Vulnerability	6
Fig 2	Access and Availability of Services (NFHS 2)	35
Fig 3	Caste Composition of Urban Delhi by Economic Groups	51
Fig 4	Neonatal, Infant and Child Mortality by Economic Groups	53
Fig 5	Immunization Coverage among Children 12 – 23 months of age by Economic Groups	56
Fig 6	Prevalence of Diarrhea in the Preceding 2 Weeks of Survey by Economic Groups	57
Fig 7	Knowledge about Treatment during Diarrhoea by Economic Groups	58
Fig 8	Treatment during diarrhea by economic groups	58
Fig 9	Breastfeeding practices by Economic Groups	62
Fig 10	Percentage of children who receive complementary feeding by 7 – 9 months by economic groups	62
Fig 11	Prevalence of anemia among children by economic groups	63
Fig 12	Percentage of Children (12-35 Months) who Received at least One Dose of Vitamin A by economic groups	64
Fig 13	Prevalence of Anemia among Women by Economic Groups	64
Fig 14	Antenatal care received by mothers during pregnancy by Economic Groups	67
Fig 15	Place and Assistance during Delivery by Economic Groups	69
Fig 16	Total Fertility Rate by Economic Groups	71
Fig 17	Knowledge about Contraception by Economic Groups	72
Fig 18	Current Usage of Contraception by Economic Groups	72
Fig 19	Prevalence of Tuberculosis by Economic groups	75
Fig 20	Prevalence of Malaria by Economic Groups	76
Fig 21	Access to water supply by economic groups	78
Fig 22	Households having Access to Private Sanitation Facility by Economic Groups	79



सत्यमेव जयते

Naresh Dayal

Health & FW Secretary
Tel.: 23061863, Fax: 23061252
e-mail : secyfw@nb.nic.in
secyhth@hub.nic.in
ndayal@nic.in

भारत सरकार
स्वास्थ्य एवं परिवार कल्याण मंत्रालय
निर्माण भवन, नई दिल्ली : 110011
GOVERNMENT OF INDIA
MINISTRY OF HEALTH & FAMILY WELFARE
NIRMAN BHAVAN, NEW DELHI - 110011

June 1, 2007

FOREWORD

1. The urban population of India constitutes 285 million people and over one-fourth of this population lives in urban slums under poor and appalling living conditions with high levels of susceptibility to disease and ill health. Trends in urban poverty suggest that the number of urban poor in the country is expected to increase considerably in the years to come. Therefore, as a step in the right direction, "Urban Health" has been acknowledged as one of the thrust areas in the Tenth Five-Year Plan, National Population Policy (NPP, 2000), National Health Policy (NHP, 2002), and Reproductive and Child Health Program (RCH-II), which is now an intrinsic component of the on-going National Rural Health Mission (NRHM). The Ministry of Health & Family Welfare (MoHFW), Government of India has circulated detailed guidelines to all states for development of city-level urban slum health project proposals, with the objective of improving access to health care services by the urban poor. Along with the development of these guidelines, the MoHFW, in partnership with the respective state governments, municipal bodies and the Urban Health Resource Centre (UHRC) (formerly Environmental Health Project, EHP of USAID), has developed four comprehensive sample urban health proposals for cities with differing population sizes.

2. Non-availability of urban poor specific data continues to be a serious constraint in formulating effective policies and programs for improving health conditions of urban poor. Therefore, the UHRC, the Government of India designated nodal technical agency for the urban health program was requested to look into the matter and explore the possibilities for assembling the required urban health related data through various surveys/studies, including nationwide surveys such as NFHS, and undertake brief policy analyses wherever possible.

3. This report provides urban poor specific information on demographic indicators, health conditions and access to services by them for the state of Delhi. The report also gives inter-alia an overview of relevant central and state policies and provisions that exist for improving lives of urban slum dwellers. It is hoped that the State/ city governments and other urban health stakeholders in the state will benefit immensely from the analyses of policies, programs and data on health status of the urban poor contained in this report and would effectively utilize this information for better urban health program planning and implementation. **I take this opportunity to make an appeal to the various State Governments in this country to accord the necessary and deserving high levels of priority to the critically important issue of Urban Health and take all the necessary follow up actions accordingly. While pursuing this effort, the State Government must feel free to seek and obtain any technical support they may find necessary from both the Urban Health Division of this Ministry and the Urban Health Resource Centre (UHRC), which is the Government of India designated nodal technical agency for the Urban Health Program in the country.**

(NARESH DAYAL)

Secretary to the Government of India



सम्पर्क से पहले सोचो, एच आई वी/एडस से बचो HIV/AIDS : Prevention is better than cure

Acknowledgements

This report has benefited immensely from the guidance and research evidences from a wide variety of individuals and institutions.

We are grateful to the Ministry of Health and Family Welfare, Government of India, for affording us the valuable opportunity to develop this report on *“State of Urban Health in Delhi”*. The vision and encouragement of Mr. PK Hota, former Health and Family Welfare Secretary has been a major driving force behind the report. We express our sincere gratitude to Mr. Naresh Dayal, Secretary (Health and Family Welfare) for his support and encouragement in the preparation of this report. We are thankful to Mr. Amarjeet Sinha, Joint Secretary, Mr. Pravir Krishn, Joint Secretary, Ms. Archana Verma, Deputy Secretary and Ms. Rekha Chauhan of the Ministry of Health and Family Welfare for their keen interest, useful inputs and suggestions on this report.

Dr. O. Masee Bateman, Chief, Maternal and Child Health and Urban Health, USAID India has been a constant source of inputs, guidance and encouragement throughout the process of preparation. We are also thankful to Dr. Sanjeev Upadhyay, Advisor, Urban Health and Infectious Diseases for his constant support.

We wish to express our gratitude to Shri T.C. Nakh, former D.C., Shahadra North; Shri A.K.Akolia, Additional Comissioner (Health), Municipal Corporation of Delhi, Dr. Karuna Singh, Project Director I.P.P. VIII, Dr. A.V. Singh, Chief Administrative Medical Officer, Shahadra North, Dr. M. G. Gupta, Chief District Medical Officer, North East District, Dr. B.C. Roy, former Additional Chief District Medical Officer, North East District and Dr. P.C. Sahoo, Additional Chief District Medical Officer, North East District, Dr. Monica Rana Dutta and Dr. Dharm Deewan, Program Officers, NRHM, Delhi State Program Management Unit for their inputs, suggestions and continued support during the process of preparing this report. Dr. Sandhya Singh, Senior Medical Officer, Health Visitors along with ANMs and AWW extended all possible help in understanding the functioning of the Urban Health Delivery system as well as the attendant challenges in the future. Dr. Sandhya Mansia, Medical Officer, Maternity Home, Babarpur and Dr. Gurpreet Singh, Senior Medical Officer and MIS-in-charge, IPP-VIII reviewed this report and provided valuable comments.

We express sincere gratitude to the International Institute of Population Sciences for providing raw data from NFHS 2 for re-analysis. Special thanks to the expert panel comprising Dr. Arvind Pandey, Director, Institute for Research in Medical Statistics, ICMR, Dr. H.P.S. Sachdeva, Former President, Indian Academy of Pediatrics, Dr. P.M. Kulkarni, Professor, Centre for the Study of Regional Development, School of Social Sciences, Jawaharlal Nehru University, Dr. Laveesh Bhandari, Director, Indicus Research, for reviewing the methodology for NFHS re-analysis and providing valuable suggestions and Dr. Sushanta K. Banerjee, Research Manager, Population Services International, for clarifying issues regarding Standard of Living Index.

We remain indebted to Dr. Damodar Sahu for carrying out statistical analysis and generating the data tables. We are thankful to Dr. Dheeraj Shah for a thorough review of this report. His incisive comments helped enhance the quality of the report.

We value the efforts of UHRC colleagues at various stages in the preparation of this report. We express our thanks to Dr. Mainak Chatterjee and Dr. Partha Haldar for their meticulous review, proof reading and help in finalizing this report.

Suggestions and comradeship of Ms. Karishma Srivastava, Dr. Sainath Banerjee, Mr. Pradeep Patra, Mr. Partha Roy, Mr. S. K. Kukreja, Mr. Umesh Tiwari, Mr. Ajith Kumar, Mr. Prabhat Jha, Mr. Sandeep Kumar and Mr. Rajesh Dubey have been of immense value. Thanks are due to Mr. Mukesh Pahwa of S M Graphics for the layout and printing of this report.

We hope that this report proves useful to concerned stakeholders, program implementers and policy makers. We look forward to comments and suggestions from the readers.

Abbreviations and Acronyms

ANC	Antenatal Care
ANM	Auxiliary Nurse Midwife
ARI	Acute Respiratory Infection
AWC	Anganwadi Center
BCG	<i>Bacillus Calmette Guerin</i>
BPL	Below Poverty Line
CBO	Community Based Organization
CHC	Community Health Centre
DDA	Delhi Development Authority
DHFW	Department of Health and Family Welfare
DHS	Demographic Health Survey
DJB	Delhi Jal Board
DPT	Diphtheria Pertussis Tetanus
EAG	Empowered Action Group
EHP	Environmental Health Project
EWS	Economically Weaker Sections
GOI	Government of India
GoNCTD	Government of National Capital Territory of Delhi
HP	Health Post
ICDS	Integrated Child Development Services
IMR	Infant Mortality Rate
ISSA	Integrated System for Survey Analysis
IUD	Intra Uterine Device
JNNURM	Jawaharlal Nehru National Urban Renewal Mission
JSY	Janani Suraksha Yojana
JJ	Jhuggi Jhopri (Slum Clusters)
MCD	Municipal Corporation of Delhi
MCH	Maternal and Child Health
MLA	Member of Legislative Assembly
MMR	Maternal Mortality Ratio
MOHFW	Ministry of Health and Family Welfare
MoHUPA	Ministry of Housing and Urban Poverty Alleviation
MoUD	Ministry of Urban Development
MPW	Multi Purpose Worker
NDMC	New Delhi Municipal Corporation
NFHS	National Family Health Survey
NGO	Non Government Organization
NHP	National Health Policy
NPP	National Population Policy
NRHM	National Rural Health Mission
NSDP	National Slum Development Program

OBC	Other Backward Classes
OPV	Oral Polio Vaccine
ORS	Oral Rehydration Solution
PHC	Primary Health Centre
PPC	Post Partum Centre
PPW	Proportion Possession Weighting
RCH	Reproductive and Child Health
SC	Scheduled Caste
SD	Standard Deviation
SHG	Self Help Group
SJSRY	Swarna Jayanti Shahari Rozgar Yojana
SLI	Standard of Living Index
TBA	Traditonal Birth Attendant
TFR	Total Fertility Rate
TT	Tetanus Toxoid
UFWC	Urban Family Welfare Center
U5MR	Under Five Mortality Rate

Executive Summary

India's Urbanization and Poverty Scenario

India has been witnessing rapid urbanization in recent decades. The urban population of India constitutes 285 million people and is estimated to reach 534 million by 2026. Percentage decadal growth in urban areas was 31.2% vis-à-vis 17.9% in rural areas between 1991 and 2001. Over one-fourth of the urban population of India today lives in urban slums under inhumane conditions with increased susceptibility to disease and ill health. Current trends in urban poverty suggest that the number of urban poor is set to increase considerably in future in the absence of a well-planned, long-term intervention strategy.

Importance of Focusing on the Health of Urban Poor

The urban poor suffer from adverse health outcomes which do not get reflected in commonly available health statistics. Most sources of health information which provide for rural and urban average figures mask the inequalities which exist within the various economic groups in urban areas. For instance, the under five mortality rates (U5MR) among the urban poor (112.2) are nearly three times higher than the rates for the urban high income groups (39.4). As per the NFHS 2 data, only 43% the urban poor children are fully immunized by completion of one year of age. The percentage of severely under-weight children among the urban poor is 23.0 which is twice the urban average (11.6%) and five times (4.5%) that of urban high income group.

Why are the Urban Poor Vulnerable

The poor in urban areas are vulnerable to health risks as a consequence of living in a degraded environment, inaccessibility to health care, irregular employment, widespread illiteracy and lack of negotiating capacity to demand better services. A significant proportion of slums are not listed in official records and therefore remain outside the purview of public services including health which further accentuate their vulnerability to health risks. As the vulnerability of urban poor is influenced by a variety of factors, the variation in these factors results in some slums being more vulnerable than others. It is essential that development programmes recognize the differential vulnerability of slums so that context specific approaches and effective targeting of resources to the most vulnerable is made possible.

Government of India's Focus on Health of the Urban Poor

The Government has recognized the non-availability of primary health care services to the urban poor in important policy statements such as the National Population Policy (NPP) 2000, RCH II and Tenth Five Year Plan. The Government of India in the RCH II envisages a specific focus on lesser developed states for the delivery of RCH services with a focus on urban poor. The Sub-Mission on Basic Services under the Jawaharlal Nehru National Urban Renewal Mission (JNNURM) envisages to improve basic services in slums in 63 identified cities including Delhi. The Ministry of Health and Family Welfare, Government of India has announced its intention to launch the National Urban Health Mission by the end of 2007 to strengthen health services in urban areas particularly to the urban poor.

Delhi– Urban poverty, Policies and Reproductive and Child Health (RCH) services

As per the Census of 2001, Delhi is home to around 1.37 crore persons, 93% of whom live in urban areas. Delhi's population grew by 46 per cent during the decade 1991-2001 which is more than double the national

population growth rate of 21.34 per cent. As of 2007, the population of Delhi is estimated to be around 16.5 crores and is estimated to reach 27.9 crores by 2026. Nearly 2 lakh persons migrated into Delhi every year during the decade 1991-2001. Most of these migrants land up in slums whose population is enumerated to be 18.7 lakhs or 18.7 per cent of the urban population of Delhi. However, not only is the slum population underestimated by the census but urban poor also reside in other locations like unauthorized and resettlement colonies. It is estimated that nearly half of Delhi's population resides in urban poor habitations.

While there exist a variety of policies and programs for slum development, health, status of women, employment and nutrition there is a considerable scope for making them more effective in improving health and living conditions of the urban poor. The key problems relate to the rapid increased in the population of slum dwellers which outstrips the meager resources and services which exist, lack of convergence and coordination of efforts from among various programs and stakeholders and lack of linkages with the community.

Delhi Government and Municipal Corporation of Delhi (MCD) form the backbone of the public health service delivery system in the city. Private health providers too are key players in the overall provisioning of the health care services. In urban areas of Delhi, primary level RCH services are delivered through a chain of dispensaries, PHCs, Maternity Homes, Maternal and Child Welfare Centers, Family Welfare Centers and health posts. A number of programs impacting upon health status of the urban poor are in operation though their coverage is far from being adequate. These include Public Distribution System, Mid-Day meal scheme, Nutrition Program, Integrated Child Development Schemes ICDS and National Creche Fund Scheme. Though Delhi appears to have adequate health care facilities, this does not extend to most slum communities which have limited access to primary health care services.

The situation analysis of Shahdara North and Narela Zones of Delhi are presented in this document as a reference case study of a zones having a high proportion of urban poor population. In Shahdara North, RCH services are provided by 15 Primary health care services managed by the MCD. The present facilities are able to cater a population of 7.5 lakhs only. Hence a large part of the zone is unserved and almost 70% of the population do not have dedicated RCH service delivery infrastructure. Even in the areas which are covered large areas are underserved due to shortage of staff. The urban poor in the area are residing in mainly unauthorized colonies, slums, resettlement colonies. As part of the slum vulnerability assessment in Shahdara North 181 urban poor habitations were identified and assessed, out of which 85, 82 and 14 respectively have been categorized as most, moderately and least vulnerable. This assessment was based on the criteria of socio-economic and health status of the community as a whole, access and availability of basic infrastructure, water supply, health facilities, presence of Anganwadi Center (AWC) and existing capacity of community groups. As the public sector primary health care infrastructure is grossly inadequate in this zone, it is essential for the government to partner with the private sector in order to improve access to health care services. A few NGOs and Charitable health providers are the potential private resources that can be utilized for this purpose.

Health and Nutrition Conditions among urban poor in Delhi-Reanalysis of NFHS 2 (1998-99) Data

Most information of health conditions that is available for Delhi provides for only rural – urban comparisons including NFHS. This commonly leads to false conclusions about the relative conditions of the urban poor as

the urban averages mask the inherent inequalities that exist. NFHS 2 (1998-99) data of Delhi was re-analyzed according to Standard of Living Index (SLI), an asset-based indicator to understand the comparative health status of urban poor. The above assessment uses the low SLI segment of urban population as representative of 'urban poor'.

Among the urban poor households in Delhi about 16% have no access to piped water supply while 75% use a private sanitary facility. The inadequacy in availability and use of health infrastructure coupled with poor economic and environmental conditions contribute to the poor health of the urban poor in Delhi. This situation is further worsened by the fact that only 25% of the urban poor children were completely immunized. Dropout and left out rates in childhood immunization are far higher among urban poor households (36.6 and 25.9 respectively), in comparison to the urban average (11.4 and 9.1 respectively). Overall, these factors contribute significantly to the high rates of Neonatal Mortality, Infant mortality and Under-5 year mortality in urban slum communities in Delhi which stand at 39, 94 and 136 respectively. These are significantly higher than the urban averages.

Total fertility rate (TFR) among the urban poor was 4.8 which is twice the urban average of 2.4 in Delhi. Only one-third of eligible couples among the urban poor use a method of contraception and only 9% use spacing methods. Only one-third (36%) of the mothers among urban poor received the recommended 3 or more ante natal check ups which serve as important contact points to disseminate RCH related information including family planning. Domiciliary delivery is still the norm with a high of 74% taking place at home. Only 29% of the home deliveries were attended by trained personnel.

Further evidence of the rich-poor divide for RCH services and awareness in urban areas in Delhi is evident as children from the fact that poor urban families are thrice as likely to be undernourished as compared to children from rich families. Prevalence of anemia was found to be higher among children belonging to this category. Only 23 percent of the urban poor neonates are breastfed within one hour of birth. Over two-thirds (68 percent) of the children do not receive complementary foods by 7-9 months of age among the urban poor.

The urban poor in Delhi also suffer from a huge burden of communicable and vector borne diseases such as tuberculosis, malaria, dengue and chikungunya. Poor environmental conditions, overcrowding and poor nutritional status make urban slums a fertile ground for the spread of these diseases. The prevalence of tuberculosis among the urban poor in Delhi is 1315 per 100,000 persons which is double that of the urban average. Similarly, the prevalence of malaria among the urban poor at 784 per 100,000 persons is double that of the urban rich. In 2006, there was an outbreak of dengue in Delhi in which 2950 cases and 65 deaths were reported.

Conclusion

The current poverty scenario in Delhi indicates that one out of every five residents in Delhi resides in slums and nearly half in other urban poor habitations like unauthorized and resettlement colonies. The real health conditions and service coverage for the urban poor is masked by the urban average figures. The reanalysis of the NFHS data by economic classes highlights the poor state of slum dwellers Delhi. Though there are various policies and programmes which address the concerns of the urban poor, their impact on the lives of the urban poor has been limited because of little coordination among different programmes and departments.

In order to strengthen services and improve the health of the urban poor, the following measures are suggested :

1. It is important to map all slums (both listed and unlisted), health facilities and other health providers in the private sector. This will be a useful tool for planning and monitoring.
2. Recognize that all slums and urban poor habitations are not alike and the need to focus on the most vulnerable. It is essential that all urban poor habitations are listed and assessed for health vulnerability. Slum lists should be periodically updated as rapid urbanization results in the creation of new slum clusters from time to time.
3. The multitude of agencies involved in managing health facilities (MCD, IPP-VIII, GoNCTD etc) makes it necessary to for an alignment of health facilities being managed by these agencies. The catchment areas also need to be redefined so that there is no duplication and improve accountability.
4. Augment urban health infrastructure and services in order to increase access of primary health care services to the urban poor. Partnerships with the private sector is an effective way to improve access to health services in urban slums.
5. Improve functional coordination among stakeholders (like health, ICDS, water supply, sanitation, slum development, public distribution system, private health service providers etc). A task-force at the city level comprising officials of different departments which reviews different programmes can bring in synergy and improve impact of the various programmes.
6. Migratory trends need to be considered while planning for planning RCH services. Specific communication strategies should be designed for such populations and health providers should be mandated to provide services to temporary and new residents in addition to population in their service records.
7. Strengthen community networks such as self-help groups and women's health groups and their linkages with health providers. Such groups can generate awareness, increase demand and negotiate for better services.
8. Promote community managed health funds which serve as a risk pooling measure ensure that vulnerable slum communities are able to meet health exigencies and reduce the burden of easily preventable morbidities and mortality.
9. The significant construction and infrastructural development activities and other activities associated with economic growth taking place in Delhi will continue to attract migrant labour in large number who will stay in slums and other informal settlements. It is necessary that the health service delivery machinery is geared to meet the demands the unique needs of this rapidly growing population.

SECTION 1

Health of the Urban Poor: India's Emerging Priority

SECTION 1

Health of the Urban Poor - India's Emerging Priority

1.1 India's Urbanisation and Urban Poverty

Urbanization is fast becoming the defining process in shaping the course of social transformation and ensuing development concerns in India. Out of the total population of 1027 million (as on 1st March, 2001), 742 million lived in rural areas and 285 million in urban* areas.¹ The percentage decadal growth of population in rural and urban areas during the decade was 17.9 and 31.2 percent respectively.¹ If urban India is considered a separate country, it would be fourth largest in the world after China, India and the United States. Population projections indicate that by 2026, India's urban population will grow to 534 million and constitute 38.2 per cent of its total population.² In 2001, there were 35 cities with million plus population and 393 cities above 100,000 population. It is estimated that the number of million plus cities in India will grow to 51 by 2011 and 75 by 2021. In addition there would be 500 large cities with population above 100,000 by 2021³.

Over one-fourth (25.7%) of the urban population of India is poor i.e. their consumption expenditure is less than the poverty line of Rs. 538.60 per capita per month. The benefits of urbanization have eluded this burgeoning 80.8 million urban poor population, most of whom live in slums⁴. An analysis of population growth trends between 1991 and 2001 shows that while India grew at an average annual growth rate of 2%, urban India grew at 3%, mega cities at 4% and slum populations rose by 5%.⁵ This rapid and unplanned urbanization and simultaneous growth of urban poverty in the limited living spaces has a visible impact on the quality of life of the slum dwellers of the city. Existing infrastructure and services are hard-pressed to cater to this growing urban population and the urban poor bear the brunt of this burden. When infrastructure and services are lacking, slums and other vulnerable settlements are amongst the world's most life threatening environments.⁶

* Census of India defines urban areas as a) all areas with a municipality, corporation, cantonment board or notified area committee etc b) a place satisfying the following three criteria simultaneously: a minimum population of 5,000; at least 75% of male working population engaged in non agricultural pursuits and a density of population of at least 400 per sq. km. (1000 per sq. mile)

Urban poor constitute one-fourth of India's urban population.

1. Registrar General of India. 2001. *Primary Census Abstract. Total Population: Table A-5*. New Delhi: Registrar General and Census Commissioner.
2. Registrar General of India. 2006. *Population Projections for India and the States 2001-26*. New Delhi: Office of the Registrar General and Census Commissioner.
3. Sivaramakrishnan K and Singh B (2001). Paper on Urbanization. www.planningcommission.nic.in/reports/sereport/ser/vision2025/urban.doc, accessed on 21.04.06.
4. Press Information Bureau. 2007. *Poverty Estimates for 2004-05*. Available at <http://pib.nic.in/release/release.asp?relid=26316>. Accessed 23 July 2007.
5. Chatterjee G (2002). *Consensus versus confrontation: Local authorities and state agencies form partnerships with urban poor communities in Mumbai*. Urban secretariate, United Nations Human Settlements Programme. UNHABITAT.
6. WHO (1999). "Creating healthy cities in 21st century". Chapter 6 in David Satterthwaite (ed). *The Earthscan reader on Sustainable cities*, Earthscan publications London.

The urban advantage evades the 80.8 million urban poor.

The urban poor suffer from adverse health outcomes which are as bad as the rural population.

1.2 Importance of Focusing on Health of the Urban Poor

The urban poor suffer from adverse health outcomes which do not get reflected in commonly available health statistics. Most sources of health information which provide for urban and rural desegregation mask the inequalities which exist within the various economic groups. For instance, the under-five mortality rate among the urban poor (112.2) is nearly three times higher than that for the urban high income groups (39.4)⁷. As per the NFHS II data among children 12-23 months of age belonging to the urban poor only 43% are fully immunized⁷. The proportion of severely under-weight children among the urban poor (23%) is five times more than that of urban high income group (4.5 %).

The poor health conditions among slum dwellers who comprise a large section of our growing cities need to be addressed on a priority basis. Owing to rapid growth, the already underserved urban poor are at risk of becoming even more underserved as the population growth outstrips the meager services that exist. The health and productivity of this section of the population are vital as they play an imperative role in the economic activities of cities which in turn contribute to the economic growth of the country.

1.3 Why are the Urban Poor Vulnerable

'Vulnerability' can be defined as a situation where the people are more prone to face negative situations and there is a higher likelihood of succumbing to them⁸. With reference to health, it implies a situation leading to increased morbidity and mortality.

The urban poor are known to be especially vulnerable to health risks as they constantly face problems linked to congested and degraded living space, inaccessibility to health care and most importantly poverty. The premise that, poverty keeps people in poor health and poor health leads to poverty is very applicable to the situation urban poor live in.

All Slums are not Equal

Various approaches have adopted different criteria for assessing health vulnerability in urban slums^{8,9,10}. An approach of assessing health vulnerability of urban slums based on the factors mentioned in **Table 1** has been developed by EHP (now UHRC)¹¹. The vulnerability assessment of slums carried out by this agency first identified and listed all slums in the city – including the ones which were absent in official records. An aspect that severely impinges upon the health vulnerability of the urban poor is the fact that slums lists do not get updated, and there are many

7 USAID/EHP (2003). Health, Nutrition and Population by Economic Groups in India. New Delhi : USAID-EHP.

8 Loughhead S et al., 2001. Urban Poverty and Vulnerability in India, New Delhi : Department for International Development (DfID).

9 Cleene S, 1999. Community Learning Information Communication Case Study: Kerala Community Development Society. London : GHK Research and Training.

10 Plummer J, Ayamnuang N. 2001. *Poverty in Vientiane: A Participatory Poverty Assessment*. London : GHK International.

11 Agarwal S and Taneja S, 2005. All Slums are not Equal : Child Health Conditions among the Urban Poor. *Indian Pediatrics*; 42 : 233-244.

unlisted slum pockets where large portions of urban poor reside. Slums were then assessed on the criteria mentioned above by visits to slums and discussions with persons having in depth knowledge of the slums. The findings of the slum assessment exercise were triangulated and validated with inputs from key stakeholders i.e. Community Based Organizations, staff of government outreach projects, NGOs and community leaders, Ward Councilors and others, resulting in categorization of slums into most, moderate and least vulnerable slums. Vulnerability Assessment using this methodology in Shahdara North Zone revealed that out of the 181 slums in the Zone, 85 were categorized as most vulnerable, 77 as moderately vulnerable and 19 as least vulnerable slums.

In a maternal and child health survey conducted in the slums of Indore, it emerged that the health of the residents of most vulnerable slums are worse

The urban poor are vulnerable to health risks because of living in a degraded environment, inadequate health services and poverty.

Factors	Situation Affecting Health Vulnerability in slums
Economic conditions	Irregular employment, poor access to fair credit
Social conditions	Widespread alcoholism, gender inequity, poor educational status
Living environment	Poor access to safe water supply and sanitation facilities, overcrowding, poor housing and insecure land tenure
Access and use of public health care services	Lack of access to ICDS and primary health care services, poor quality of health care.
Hidden / Unlisted slums	Many slums are not notified in official records and remain outside the purview of civic and health services.
Rapid mobility	Temporary migrants denied access to health services and other development programmes, Difficulty in tracking and providing follow-up health services to recent migrants.
Health and disease	High prevalence of diarrhea, fever and cough among children
Negotiating Capacity	Lack of organized community collective efforts in slums

Table 1: Factors contributing to the vulnerability of the urban poor.

MISSING SLUMS

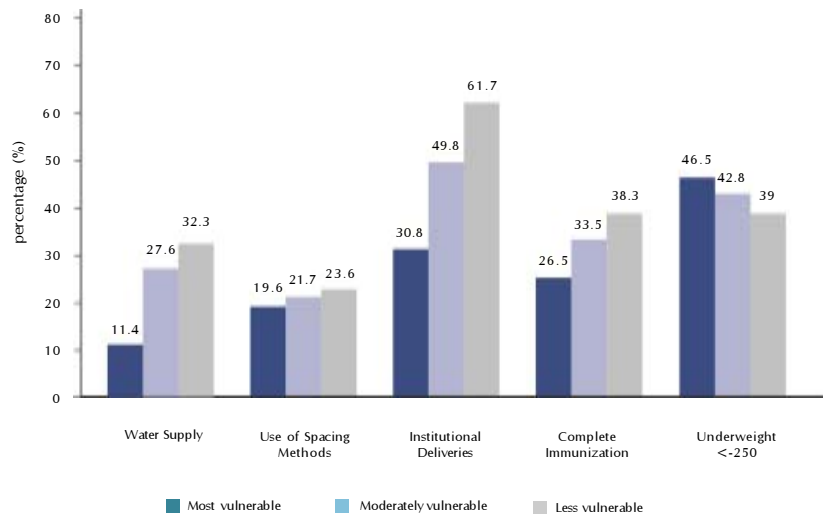
In Indore, there were 438 officially recognized slums based on List from the Mayor's and Municipal office. In a study conducted by EHP, an additional 101 slums were identified through a process of mapping and categorization.

In the city of Agra, as per the list of the DUDA, there were 215 slums with an estimated population of 3 lakhs. The vulnerability assessment of the underserved population done by the EHP for developing the Urban Health Project estimated the number of slums to be 393 with an estimated population of approximately 8 lakhs.

Slums are not equally vulnerable and it is essential to focus on the most vulnerable.

than those of other slums. For instance, while only 11.4 per cent of the residents of most vulnerable slums have individual piped water supply, the corresponding figure in less vulnerable slums was 32.3 percent. In most vulnerable slums, only 26.5 per cent of the children were completely immunized as against 38.3 per cent in less vulnerable slums¹². The poor health status in the vulnerable slums is an outcome of the poor environmental conditions and economic status of the residents of these slums. The wide variation among slums need calls for a better understanding of the diversity in slums and developing programs in context to this situation.

Figure 1: Health and Basic Services Availability in Slums of Indore by Vulnerability



1.4 Government of India's Focus on Health for the Urban Poor

The Government has acknowledged the non-availability as well as substantial under utilization of available primary health care facilities in urban areas along with an overcrowding at secondary and tertiary care centers. Maternal and Child Health services to the urban poor have been recognized as important thrust area by the government under the National Population Policy-2000¹³, National Health Policy-2002¹⁴, RCH II and the Tenth Five Year Plan¹⁵. The 2010 goals of the NPP 2000 (To ensure universal immunization, intensify neonatal care, facilitate 80% institutional deliveries, reduce IMR from 68 per 1000 births to 30 per 1000 births and MMR to 100/ 100,000), envisaged that a comprehensive urban health care strategy be finalised for achieving access to all in urban areas, especially slums. The National Health Policy-2002 envisages setting up of an organized two-tier Urban Primary Health Care structure.

12 USAID-EHP 2004, Maternal and Child health survey, Indore.

13 Ministry of Health and Family Welfare. 2000. National Population Policy. New Delhi: MoHFW.

14 Ministry of Health and Family Welfare (MOHFW). 2002. National Health Policy, 2002. New Delhi: Department of Health, MOHFW.

15 Planning Commission. 2002. Tenth Five Year Plan, 2002-2007, New Delhi: Planning Commission, Government of India

The National Rural Health Mission (NRHM, 2005-2012) in recognition of the needs of the urban poor population has constituted a Task Force on Urban Health to recommend strategies for improving health of the urban poor. Based on the recommendations of this Task Force, the Government has announced the launch of the “National Urban Health Mission” by the end of year 2007. The Ministry of Health and Family Welfare, Government of India has formulated guidelines for development of city level urban slum health projects which provides a mechanism for urban health delivery and its overall management. The guidelines suggest provision of a primary health care delivery center for every 50,000 urban population, manned by 3-4 ANMs¹⁶. Pursuing the cause of health improvement among the urban poor, the MoHFW has encouraged state governments to identify priority districts and initiate Urban Health Projects to augment infrastructure development, where required and build community provider linkages.

The Ministry of Urban Development (MoUD) and the Ministry of Housing and Urban Poverty Alleviation (MoHUPA) have launched the Jawaharlal Nehru National Urban Renewal Mission (JNNURM, 2005-12) with a sub-mission on ‘Basic Services for the Urban Poor’¹⁷. It focuses on an integrated approach to provide basic services to the urban poor in 63 identified cities in the country including Delhi. The sub-mission will cover projects for providing housing at affordable costs, projects on water supply, sewerage, community toilets, construction and improvement of drains, environmental improvement of slums, solid waste management, street lighting, civic amenities like community halls, child care centers, slum rehabilitation etc.

The RCH-II places special emphasis on the health of the urban poor.

16. Ministry of Health and Family Welfare (MOHFW). 2004. *Guidelines for Development of City level Urban Slum Health Projects*. New Delhi : Department of Family Welfare, MOHFW.

17. Ministry of Housing and Urban Poverty Alleviation and Ministry of Urban Development. 2005. *Jawaharlal Nehru National Urban Renewal Mission- An Overview*.

KEY MESSAGES

- Urban population (285 million) comprises about one-fourth of the total Indian population and expected to reach about 40% (576 million) by the year 2030.
- Urban poor, many dwelling in slums or slum like settlements, constitute one-fourth (80.8 million) of the urban population.
- The health indicators among slum dwellers is worse than urban or even rural averages.
- Slum statistics do not get updated and many slum pockets do not find a mention in the averages.
- Identifying, listing and plotting of all slums including unlisted and hidden clusters is important to ensure equity and reach to hitherto underserved clusters.
- Assessment of slums is crucial to determining differential needs and identifying the most vulnerable.
- The MoHFW, Government of India has formulated guidelines for development of city level urban slum health projects which provide a mechanism for urban healthcare delivery and its overall management.

SECTION 2

Urban Poverty, Policies and Health and Nutrition Services in Delhi

SECTION 2

Urban Poverty, Policies and RCH Services in Delhi

2.1 Delhi: The Urban Poor Scenario

Demographic Profile*

The population of Delhi increased from 7 lakhs in 1947 to 1.37 crores in 2001. During 1991-2001, the decadal growth rate of population in Delhi was 46%, declining slightly from 51% as during 1981-1991. Despite this marginal decrease, this growth rate is still more than double the national average of 21.3 per cent¹. The population of Delhi is projected to nearly double to 2.79 crores by 2026. Among the nine districts of Delhi, four have registered a decadal growth rate of more than 60% while one district has recorded a negative growth rate. **Table 2** details the district-wise decadal population growth.

Delhi's population grew by 46 % during the decade 1991-2001 to reach 1.37 crores.

Districts	Population 2001	% Growth of Population	Slum Population 2001	% of Slum Population
North West	28,47,395	60.1	3,15,975	11.1
North	7,79,788	13.3	4,08,649	52.4
North East	17,63,712	62.5	84,113	4.8
East	14,48,770	41.6	1,13,530	7.8
New Delhi	1,71,806	2.5	35,573	20.7
Central	6,44,005	-1.9	4,56,839	70.9
West	21,19,641	47.8	2,48,345	11.7
South West	17,49,492	61.3	1,13,435	6.5
South	22,58,367	50.27	2,53,296	11.2
Total	13782976	46	2,029,755	15.7

Table 2: District-wise Decadal Growth of Population and Slum Population in Delhi

Source: Census 2001

With 93% of its population living in urban areas, Delhi has the highest percentage of urban population among all the States and Union Territo-

* *The Constitution (Sixty-ninth Amendment) Act, 1991 has renamed the Union Territory of Delhi as National Capital Territory of Delhi. Not yet a full fledged State, the Delhi Assembly has powers to formulate laws with respect to all the matters in the State List or in the Concurrent List of the Constitution of India except Entries 1 (Public Order), 2 (Police), and 18 (Land), and entries 64, 65 and 66 related to the said entries of the State List (19).*

¹ Registrar General of India. 2001. Primary Census Abstract. Total Population : Table A-5. New Delhi : Registrar General and Census Commissioner.

2 lakh migrants move into Delhi each year.

About 50 % of Delhi's population live in slums and other urban poor habitations.

ries of India. Spread over an area of 1486 sq. kms, Delhi has the highest population density in the country. This phenomenal population growth is predominantly a result of large scale migration which is estimated to be nearly 2 lakh per year as per Census 2001². This rapid population growth has put the urban infrastructure namely land, health services, education and administration under tremendous pressure. The bulk of the migrant population coming to Delhi is from the northern states of India such as Uttar Pradesh, Haryana and Bihar².

Estimates of Urban Poor Population

As per the poverty estimates based on consumption expenditure in 2004-05 an estimated 2.30 million people i.e. 15.30 % of Delhi's urban population lives below the income poverty line³. Though, the urban poverty in Delhi, as per this definition, is amongst the lowest in the country, this does not reflect the plight and poor living conditions of slum dwellers and those residing in other urban poor habitations. These residents lack access to even the most basic of public amenities needed for decent living.

The Census of 2001 estimated a slum population of about 18.5 Lakhs in Delhi which is about 18.7% of the Delhi's urban population⁴. Census figures are known to underestimate the slum population as these tend to miss several unlisted and unauthorized slum pockets. Due to continuous inflow of migrants and mushrooming of unauthorized colonies and Jhuggi Jhopdi (JJ) clusters, the landscape of Delhi is spotted with different types of urban poor settlements. These include JJ clusters, slum designated areas, unauthorized colonies and JJ resettlement colonies. As per the estimates of Economic Survey of Delhi, these areas had a population of 72.5 lakhs in 2000 comprising more than half of the total population of Delhi⁵.

Types of Habitations⁶

Delhi has different types of habitations in which urban poor live. It is essential to understand these different types of settlements to evolve specific strategies for their improvement.

Planned/ Approved colonies: These colonies are approved by the zonal agencies and are part of the Master Plan of Delhi.

Slums Designated Areas: These are settlements notified under provisions of Section 3 of the Slum Areas (Improvement and Clearance) Act, 1956

- 2 Registrar General of India. 2005. Data Highlights. Migration Tables (D1, D2 and D3 Tables). New Delhi : Registrar General and Census Commissioner.
- 3 Press Information Bureau. 2007. Poverty Estimates for 2004-05. Available at <http://pib.nic.in/release/release.asp?relid=26316>. Accessed 23 July 2007.
- 4 Registrar General of India. 2005. Slum Population. Vol. 1. Series 1. New Delhi : Registrar General and Census Commissioner.
- 5 Planning Department. 2007. Economic Survey 2007-08. New Delhi : Government of the National Capital Territory of Delhi.
- 6 Batra, B. J. 2005. *Entitlement to Services and Amenities in JJ clusters, JJ Relocation Colonies and other non-planned settlements in Delhi: An Overview*, New Delhi : Institute of Social Sciences Trust.

as being too dilapidated or suffering from other disadvantages. Most of the notified slums were listed a long time ago and are located in the walled city. In the past three decades there appears to be no notification of slums.

Unauthorized Colonies: Most of these are colonies created by private developers on agricultural land not meant for residential use and have not been approved. There are 1432 such authorized colonies in which about 30 lakh people reside.

Regularized Unauthorized Colonies: These were unauthorized colonies which have now been regularized by the Government agencies. This regularization follows a political decision and often has the effect of amending the 'land use' of the land on which they are created.

Urban/Urbanized Villages: These are villages that have been overrun by the city of Delhi. By notification of the Delhi Government Urban Development Department, these have now been declared as urbanized villages. Once these are notified, all by-laws for buildings will be applicable.

Rural Villages: These are villages that exist within the National Capital Territory of Delhi but are yet to be notified as urban villages. Often these tend to be on the periphery of the city.

Resettlement Colonies: There were a total of 46 resettlement colonies in Delhi which have been formed mostly in the outskirts of the city to resettle slum dwellers. Resettlement colonies tend to be better off than JJ relocation colonies in terms of plot size and other amenities. These colonies also lack basic services and only marginally better than jhuggi jhopri clusters.

Harijan Bastis: These are unauthorized colonies which are predominantly inhabited by persons of lower castes. The term has no administrative connotation though most *harijan* bastis tend to be planned/approved colonies.

Jhuggi Jhopdi (JJ) Clusters: These are normally shanty constructions made by migrant labour in Delhi. These tend to be largely on government agency land or 'encroached' land. In a number of documents, JJ clusters are also referred to as squatter settlements.

JJ Relocation Colonies: When the authority that owns the land on which JJ clusters are built, wants to use it, clearing takes place of the cluster. Residents are relocated to other colonies as per the relocation policy. These

Apart from slums, urban poor in Delhi reside in unauthorized colonies, resettlement colonies and other types of settlements.

Table 3: Population by Types of Settlements in Delhi

Type of Settlement	Population (in lakh) 2000	% of total population	Projected population 2021
JJ Clusters	20.72	14.8	34.13
Slum Designated Areas	26.64	19.1	43.88
Unauthorized Colonies	7.4	5.3	12.19
JJ Resettlement Colonies	17.76	12.7	29.25
Rural Villages	7.4	5.3	12.19
Regularized- Unauthorized Colonies	17.76	12.7	29.25
Urban Villages	8.88	6.4	14.63
Planned Colonies	33.08	23.7	54.45
Total		139.64	100

Source: Economic Survey, GoNCTD, 2007-08

relocated colonies are known as squatter resettlement sites, but should not be confused with resettlement colonies that were a pre-1985 phenomena.

There are nearly 100,000 homeless persons in Delhi.

Homeless population: Although this is not a type of settlement but a group of people who normally reside on pavements, under bridges and flyovers and the road side in general. In spite of their high visibility and numeral strength, pavement dwellers are not entitled to any civic amenities. Civic authorities are required to provide shelters for this category of people but these are few and far between. As per the survey conducted by Delhi Based NGO Ashray Adhikar Abhiyan there were 100,000 homeless people in Delhi⁷. The survey reported that majority of the homeless population was engaged as Rickshaw puller (29%) and casual workers (26%).

2.2 Policies Aimed at Improving Housing and Basic Services for the Urban Poor

The Delhi Government has formulated a number of policies to improve the health and living conditions of the urban poor. Since 1990-91, a three-pronged strategy has been adopted for dealing with the proliferation of slum clusters. The approach is to prevent fresh encroachments on public land while providing alternatives to past encroachments prior to the cut off date of 31.01.90⁸.

Strategy-I: Relocation of those *Jhuggi* households where the land owning agencies are in a position to reclaim land pockets for larger public interest. The owner agency submits requests to Slum & JJ Department for clearance

7 Singh, I.P. 2006. Capital Punishment: Recipe for the Homeless in Delhi. In Ali S. 2006. Dimensions of Urban Poverty. New Delhi: Rawat Publications.

8 Planning Department. 2007. Economic Survey 2007-08. New Delhi : Government of the National Capital Territory of Delhi.

of the *Jhuggi* clusters for project implementation and also contribute due share towards the resettlement cost.

The original relocation plan envisaged development of sites and services plots of 18 sq. mtrs each with a 7 sq. mtrs undivided share in open courtyards as per the clustercourt- town house planning concept for resettlement. To be eligible for relocation the requirement was holding of ration card by 31 Jan 90 and being an Indian citizen. In a later addition those holding ration cards up to 31 Dec 98 were made eligible to plots of 12.5 sq. mtrs.

Since the commencement of the scheme in March, 2004, over 50,000 JJ Cluster households have been relocated by the Slum Wing. Delhi Government is providing a plan assistance of Rs. 10, 000 per plot allocated to JJ Cluster households. An amount of Rs. 113.64 crore has been invested under this scheme till March, 2004.

46 resettlement colonies have been developed mainly on the outskirts of the city to resettle about 2,16,000 squatter families, each provided with a plot of land measuring 18 sq meter at a highly subsidized price of Rs. 5,000. These colonies suffer from various infrastructural inadequacies like water supply, sewerage, drainage, garbage disposal, electricity, schools, hospitals, roads etc. A survey conducted by the Council for Social Development indicate that half of the families do not have individual water connections or toilet facilities and have to depend on community latrines and bath rooms which are either so inadequate or maintained so poorly that many of the residents defecate in the open. The system of solid waste disposal is extremely unsatisfactory and hardly 30% of the waste

The experience of rehabilitation of squatter families from the city heartlands to these outskirt settlements have not been uniform. The proximity of some of the colonies to the new work centers made them success stories, but most of these colonies are so far away from the places of work that about thirty to forty percent of the squatters returned to the slums for employment. 'Livelihood rather than habitation' was a priority for the poor squatters who found it more convenient to sell their plot at a premium and come back near their places of work in new slum settlements. In some of the resettlement colonies fresh squatter settlements have come up on the open and public land, giving rise to a phenomenon that has been described as 'slums within slums'.

Strategy-II: In-situ upgradation of JJ Clusters and construction of informal shelters in case of those encroached land pockets where the land owning

Relocation of slum families to the outskirts of Delhi has been a strategy of slum development.

Relocation strategy has met with limited success because of poor amenities in relocation colonies and because of long distances from their original places of employment.

Very few slums in Delhi have been listed for in-situ upgradation because of land disputes.

agencies issue *No Objection Certificate* to Slum & JJ Department for utilization of land.

This scheme “envisages that the existing JJ dwelling units are upgraded in an improved and modified layout by socialising the distribution of land and amenities amongst the squatter families”. The upgradation provides that households are in sites of 10 – 12.5 sq. mtrs in a modified layout and pucca informal shelters can be built.

In all only about 180 JJ clusters have been listed for in-situ upgradation. This is largely due to the LOA not granting the NOC to the S&JJ. Furthermore the S&JJ has found that the money allotted per JJ dwelling for in -situ upgradation is insufficient. According to the MCD, this approach is economically viable as it does not dislocate the income generating capacity of the JJ families and at the same time causes least problems to city urban management facilities.

Strategy-III: This strategy involves extension of minimum basic civic amenities for community use under the scheme of environmental improvement in JJ clusters. This is done irrespective of status of the encroached land till their coverage under one of the above two strategies. This scheme began in April 1987.

This extension of basic services is to be provided to all JJ clusters and there is no order restricting provision of these services based on any cut-off dates or status/title of the land.

Slums in Delhi have been extended basic minimum services under the Scheme of Environmental improvement in JJ clusters

Some of the basic amenities to be covered to improve the standard of living of the slum dwellers were – a tap for 150 persons, one bath for 20-25 persons, one lavatory seat for 20-25 persons and the like. The scheme of Construction of Pay and Use Jansuvidha Complexes intends to take care of the environmental problems generated through defecation in open by the jhuggi /slum dwellers.

The Slum & JJ Department, MCD is supposed to provide the basic facilities in the relocated complexes while the provision of peripheral services and trunk services are to be taken care of by the concerned agencies like Delhi Jal Board, Delhi Vidyut Board etc. Regarding the services under social sector inputs like transport, education, health, fair-price shop etc., these are to be provided by the subject matter agencies of Delhi Govt.

Keeping the conditions of urban slums in mind, Delhi Government has decided to provide facilities like Basti Vikas Kendras and Shishu Vatikas. Slum and JJ Deptt., MCD is providing the facility of multipurpose

community facilities complexes in relocated colonies and that of Basti Vikas Kendras in JJ Clusters and in-situ upgraded slums. In each layout, one hectare of land is to be earmarked for provision of community facilities such as primary schools, open spaces, Shishu Vatikas, Basti Vikas Kendras, community facility complexes, dhalaos etc.

Scheme for Regularization of Unauthorized Colonies

Apart from the above three strategies, to address the concerns of the residents of unauthorized colonies in which a large number of urban poor in Delhi reside, the Delhi Government has made attempts to regularize these colonies and provide basic amenities in these colonies. These colonies developed by private colonizers without approval of concerned authorities ignores the norms and standards of urban settlements and lack essential services and basic infrastructure. Certain parameters/guidelines have been laid down for regularization of unauthorized colonies which have sprung up in Delhi over the decades. 1071 unauthorized colonies are in the process of being regularized. It has been proposed that penalty will be charged from the occupants in the unauthorized colonies and they will also be asked to pay development charges so that the planned development of the area and provision of necessary infrastructure like sewerage, water electricity in a planned manner can be provided in these areas. However, the rate of such charges or the recovery of the same have been far too inadequate to actually implement such redevelopment plans which have lagged far behind the pace of growth, making most of such colonies only marginally better than many slum resettlements. Scheme for the provision of essential services in regularized-unauthorized colonies in 1977 have been taken up in the 9th Plan and will continue in the 10th Plan⁹.

1071 unauthorized colonies in Delhi are in the process of being regularized and provided basic amenities. Residents contribute partly to the area development charges.

Night Shelters including Mobile Shelters

In Delhi the acute shortage of affordable housing results in a segment of population being homeless and forced to live on streets and pavements. This population generally comprises of migratory population from different parts of the country. As per estimates, there are about 100,000 shelter-less persons in Delhi. There are 41 night shelters which can accommodate upto 4800 persons. Twelve of these shelters are permanent - ten are operated by MCD and two by Aashray Adhikar Abhiyan (AAA) - an NGO supported by Action Aid. Another ten temporary shelters are run by AAA and one by Great India Dream Foundation. Because of the lack of facilities, user fee charged by some shelters and other restrictions such as separate shelters for men and women, many homeless do not prefer to stay in such shelters. Most

There is an acute shortage of night shelters for the homeless in Delhi

9. Planning Department. 2002. Tenth Five Year Plan 2002-07. New Delhi : Government of the National Capital Territory of Delhi.

of the homeless continue to live on the streets exposed to the vagaries of nature and exposed to other forms of abuse and exploitation.

Policy Orders/Guidelines of Ministry of Urban Affairs and Employment.

As per the policy orders/guidelines issued by Ministry of Urban Development and Poverty Alleviation in July 2003, existing slums and JJ clusters ought to be ameliorated by a judicious mix of relocation and in-situ development.

Directions of Ministry of Urban Affairs and Employment vis-à-vis relocation/resettlement of JJ dwellers are as follow¹⁰.

- DDA to supply 10% of residential land to Slum Department, MCD at pre-determined rates for facilitating relocation/resettlement of JJ dwellers.
- At least 20% flats shall be for Economically Weaker Sections EWS with maximum plinth area 25 Sq.m.
- Another 20% of flats to be constructed by DDA for Low Income Groups with plinth area between 25 to 50 Sq.m.

In a letter dated 17.1.2001 issued by Ministry of Urban Affairs and Employment it has been stated that there is only one Government policy and one approved pattern of resettlement, i.e. allotment of 18 sq m. built up space to pre-1990 squatters and 12.5 Sq. m. to post-1990 but pre-1998 squatters. The duality of treatment is not to be accorded, under any circumstances, to any case involving clearance and resettlement¹⁰.

Jawahar Lal Nehru National Urban Renewal Mission (JNNURM)

A comprehensive scheme to give thrust to urban infrastructure and basic services, titled the Jawaharlal Nehru National Urban Renewal Mission has been prepared with an outlay of Rs.5,500 crore in the current financial year 2005-06¹¹. The Mission comprises two Sub-Missions - one for Basic Services to the Urban Poor (BSUP) implemented by Ministry of Housing and Urban Poverty Alleviation and the other for Infrastructure and Governance implemented by Ministry of Urban Development.

The Mission seeks to provide reform-linked Central assistance to 63 cities for infrastructure development and provision of basic services to the urban poor. It proposes to scale up the delivery of civic amenities and provides utilities with emphasis on universal access to urban poor including security

10. Planning Department. 2007. Economic Survey 2007-08. New Delhi : Government of the National Capital Territory of Delhi.

11. Ministry of Housing and Urban Poverty Alleviation and Ministry of Urban Development. 2005. Jawaharlal Nehru National Urban Renewal Mission- An Overview.

of tenure at affordable prices, improved housing, water supply, sanitation and ensuring delivery of other already existing universal services of the government for education, health and social security. The share of Centre for Delhi will be 50 % while the remaining 50 % will be borne by the State governments / Urban Local Bodies and Parastatal bodies. The duration of the Mission is for 7 years beginning from the year 2005-2006.

The Sub-Mission Basic Services to the Urban Poor (BSUP) under Jawaharlal Nehru National Urban Renewal Mission (JNNURM) has been launched with the following objectives:-

- Focused attention to integrated development of basic services to the urban poor;
- Security of tenure at affordable price, improved housing, water supply, sanitation;
- Convergence of services in fields of education, health and social security
- As far as possible providing housing near the place of occupation of the urban poor
- Effective linkage between asset creation and asset management to ensure efficiency
- Scaling up delivery of civic amenities and provision of utilities with emphasis on universal access to urban poor.
- Ensuring adequate investment of funds to fulfill deficiencies in the basic services to the urban poor.

Along with JNNURM, two schemes, namely Integrated Housing and Slum Development Programme (IHSDP) – implemented by Ministry of HUPA and Urban Infrastructure Development Scheme for Small and Medium Towns (UIDSSMT) implemented by Ministry of UD have been launched. The Valmiki Ambedkar Awas Yojana (VAMBAY) and National Slum Development Scheme (NSDP) are subsumed in the IHSDP. These two schemes are implemented in non-JNNURM cities and therefore not applicable for Delhi.

Master Plan of Delhi - 2001

The Delhi Master Plan 2021 envisages a vision and policy guidelines for the perspective period upto 2021¹². The Plan addresses critical issues such as land, physical infrastructure, transport, ecology and environment, housing, socio-cultural and other institutional facilities. Shelter and housing for the urban poor is one of the critical areas addressed by the Plan. Considering the huge gap in housing requirements especially among the poor and

The sub-mission on Basic Services under the JNNURM envisages improving sanitation, water supply, housing and other basic amenities in slums.

12. Ministry of Urban Development. 2007. Delhi Master Plan 2021. New Delhi: Ministry of Urban Development.

The Master Plan of Delhi - 2021 envisages increasing the availability of housing for the urban poor and improving conditions in slums

economically weaker sections, the Delhi Master Plan lays stress on :

- In-situ slum rehabilitation, including using land as a resource for private sector participation;
- In order to prevent growth of slums, mandatory provision of EWS housing / slum rehabilitation in all grouphousing to the extent of 15% of permissible FAR or 35 % of dwelling units on the plot, whichever is higher.
- Housing for urban poor to the extent of 50-55% of total housing requirement;
- Recategorisation of housing types, development control norms and differential densities to make EWS /LIG housing viable and economical.

In order to improve conditions in other urban poor habitations such as unauthorized colonies, the plan stresses that those unauthorised colonies, which are to be regularised as per government policy, should be effectively incorporated in the mainstream of urban development. This plan envisages the provision of infrastructure development, services and facilities for which differential norms and procedures have been devised.

In order to improve health infrastructure in Delhi, the plan proposes to achieve norms of 5 beds / 1000 population as against the present ratio of 2.07 beds per 1000 population. There is a proposal to increase the Floor Area Ratio for hospitals and other health facilities and allowing nursing homes and clinics allowed under relaxed Mixed Use norms.

Trans Yamuna Area Development Board

The trans Yamuna area of Delhi, covering largely municipal zones of Shahdara North and Shahdara South have significant areas inhabited by urban poor and is characterized by a lack of basic infrastructure. For the effective development of this area, a Trans Yamuna Area Development Board was constituted in 1994. The Board approves and recommends works for infrastructural development of the Trans Yamuna Area. During the period 1994-95 to 2004-05, an amount of Rs.746.43 crore has been released to various agencies like MCD, DJB, and an expenditure of Rs.677.19 crore has been incurred by these agencies for the civic infrastructure in the area.

MLA Local Area Development Scheme

Govt. of Delhi started MLA Local Area Development Scheme in Delhi on

the pattern of MP Local Area Development Scheme of Govt. of India. Each Assembly Constituency is being allocated Rs. 2 crore for various developmental works in each financial year. These developmental works are being carried out by concerned Departments/agencies on the recommendation of the concerned MLA. This scheme has the potential to address issues concerning the urban poor. According to the Delhi Citizen's Handbook 2003 published by the Centre for Civil Society, despite the fact that most constituencies in the Capital are in need for improvement in civic amenities, only 50% of the available funds are generally spent. During the five-year tenure, MLAs as a rule spend the most in the last two years and the least in the first year after their election. It is difficult to decipher whether this is due to delays on the part of MCD and other civic agencies or due to lack of initiative from MLAs. The report recommends that the Urban Development Department facilitates the process of inviting tenders, selection of contractors and monitoring progress.

2.2.2 Policies Aimed at Generating Employment for the Urban Poor

Swaran Jayanti Shahari Rozgar Yojana

The Government of India has formulated the plan scheme "Swaran Jayanti Shahari Rozgar Yojana (SJSRY)", since 1997 to provide gainful employment to the urban unemployed or under employed poor through encouraging the setting up of Self Employment ventures or provision of wage employment.

This programme envisaged creation of suitable community structures based on the UBSP pattern and delivery of inputs under the programme through the medium of Urban Local Bodies and such community structures. The community organizations like Neighbourhood Groups (NHCs) and Community Development Societies (CDSs) are to be set up in the target point for purpose of identification of beneficiaries, preparation of application, monitoring of recovery and generally providing whatever other support is necessary to implement the programme. These societies may also be set themselves up as thrift & credit societies to encourage community saving as also other group activities. The scheme shall be funded on a 75:25 basis between the Centre and the State and consist of two special schemes namely, the Urban Self Employment Program (USEP) and the Urban Wage Employment Program (UWEP). The UWEP, however, is not applicable in the NCT of Delhi.

Urban Self Employment Program (USEP)

USEP is being implemented with special emphasis on urban poor clusters. Special attention is given to women (coverage not less than 30%), SCs and STs (proportion to their local population) and disabled (3%) under the program. The program comprises three distinct parts :

- Assistance to individual Urban Poor beneficiaries for setting up gainful self employment ventures.
- Assistance to groups of Urban Poor Women for setting up gainful self employment venture. This sub scheme may be called ' the scheme for development of women and children in the Urban Areas '(DWCUA)
- Training of beneficiaries, potential beneficiaries and other persons associated with the Urban Employment programme for upgradation and acquisition of vocation and entrepreneurial skills.

In Delhi, 36 unauthorized colonies, 9 resettlement colonies and 36 JJ clusters from financial year 2004-05 are being covered, thus raising the coverage under SJSRY Scheme to 347 JJ Clusters, 72 unauthorized colonies and 18 resettlement colonies. An outlay of Rs.80 lakhs has been approved for the Annual Plan 2004-05¹³. As on 30.11.2006, in Delhi, the number of beneficiaries assisted under USEP component of the SJSRY is 1124 while the total number of persons trained is 2570. 56 Thrift and Credit Societies have been formed and 47 DWCUA Societies have been formed in Delhi.

Table 4 Major Plan schemes for JJ clusters operational in 2006-07.

Name of the Sector/Scheme	Outlay 2006-07 (Rs. In Lakhs)
I. Urban Development	
1. Construction of Basti Vikas Kendras	300
3. Environmental Improvement in JJ Clusters	600
4. Construction of Pay Use Jansuvidha Complex	500
5. Shishu Vatika/Common Space in JJ Clusters	100
6. National Slum Development Program	538
7. Sanitation in JJ Clusters	9200
8. Urban Basic Services	70
9. Swaran Jayanti Shahri Rojgar Yojana	60
II. Water Supply & Sanitation	
1. Water supply in JJ Clusters	780
III. Health & Family Welfare	
1. Mobile Van Dispensaries for JJ Clusters.	250

13. Planning Department, 2007. Economic Survey 2007-08. New Delhi : Government of the National Capital Territory of Delhi.

IV. Social Welfare Deptt.	
1. Integrated Child Development Scheme	962
Total	12360

2.2.3 Policies Aimed at Improving the Status of Women

The social status of women has an important bearing on health seeking for both mothers and children. The government of India launched the **Balika Samridhi Yojana** in 1997. Under this scheme if a girl child is born in a family below the poverty line, as defined by the Government of India, a consolidated amount of Rs.500/- is deposited in the saving account for the upliftment of social status of the girl child. During her schooling, scholarship is also deposited in the same saving account. On attaining the age of 18 years, the amount can be withdrawn for her higher education. This assistance is restricted to families with only two girl children¹⁴.

The Social Welfare Department of Delhi is actively engaged in the implementation of various schemes for the welfare of women in order to supplement other ongoing development programs. The Delhi Commission for Women has introduced a new concept of Self Help Groups in Urban Slums with a view to create robust community-based institutions for assisting women in economic empowerment. A total number of 20 NGOs are participating in this program and 706 Self Help Groups would be set up. Legal awareness and formation of Mahila Panchayats is another initiative taken for empowerment of women¹⁵.

The concept of a Gender Budget has been implemented in 2006-2007 whereby schemes implemented exclusively for women have been identified and included. Rs.56.77 crore has been provided for such schemes.

Stree Shakti Scheme

In 2001, Stree Shakti Scheme was launched to empower poor women (15-45 years of age) especially those belonging to the economically weaker sections of the society through initiatives in health, literacy and income generation. The scheme has been implemented in all 9 districts with a target to organize 40 Stree Shakti camps (1000 beneficiaries per one day camp) per year in JJ clusters, resettlement and rural areas.

The camp itself is usually organized in a school in the local area. Each

14. <http://socialwelfare.delhigovt.nic.in/women.htm>. Accessed 23 July 2007.

15. Planning Department. 2007. Economic Survey 2007-08. New Delhi : Government of the National Capital Territory of Delhi.

Stree Shakti Camps have brought health services to the door steps of urban poor communities of Delhi.

of the classrooms of the school is assigned a different purpose like examination room with different specialist doctors from leading hospitals, laboratory room with facilities like pathology tests, X-rays, ECG, dispensary for basic medicines, etc., counseling room with local NGOs, legal cell with lawyers from the district courts available to provide legal counseling on matrimonial and other matters, etc.

A medical card is issued as part of the registration process to every woman visiting the camp. Women are then sent to appropriate rooms to discuss any medical issues they may have, administered necessary tests and given medicines wherever possible. The Stree Shakti medical card issued at the camp entitles the women fast-track access to doctors at the hospitals where a special counter has been set up for such card-holders.

Stree Shakti encourages local NGOs to make follow-up visits to the women and explains to them the importance of visiting the hospital. This partnership initiative between government and NGOs has emerged as an extremely useful mechanism for making available to women various services in their local neighborhoods itself. The scope of the Stree Shakti camps is being extended to include many other concerns relating to women including addressing issues of female discrimination, female feticide, domestic violence and extending security to women and young girls to local neighbourhoods.

During the year 2005-06, 64 Stree Shakti camps have been organized which benefitted 52370 women. Some innovative services included distribution of antenatal kits, popularizing preventive aspects of health care and creating awareness about availability of financial assistance for self-employment.

Recognizing the immense contribution of this program in empowering women in slum communities of Delhi, the Commonwealth Association of Public Administration and Management (CAPAM) awarded the Stree Shakti program with CAPAM International Innovations Award for the year 2006.

Gender Resource Center (Stree Kosh)

Under Bhagidari Scheme, Gender Resource Center scheme is being implemented for overall empowerment of women in the areas of health literacy, legal awareness and skill development. There are efforts to achieve greater convergence of women welfare programs and activities of Govt./ other agencies through single window information and facilitation center for the community women to provide wider exposure of service available

and better placement opportunities. Till date, 4 GRCs have been set up in Shahbad Daulatpur, Kalyanpuri, Najafgarh and Dakshinpuri. More than 1900 women have benefitted through the health clinics, 1130 women were provided free legal aid and 1207 women were assisted by providing skill development courses.

Rajiv Gandhi National Creche Scheme

Rajiv Gandhi National Creche Scheme for the children of working mothers was launched by the Ministry of Women and Child Development in January 1, 2006- by merging the existing two schemes viz. National Creche Fund Scheme, with the Scheme for Assistance to Voluntary Organisation for running Creches for the children of Working/ailing women. This envisages establishment of nearly 30,000 crèches for children. This scheme seeks to empower women by enabling them to work even as their infants are cared for. These crèches will be allocated to the Central Social Welfare Board, Indian Council for Child Welfare and Bhartiya Adim Jati Sevak Sangh in the ratio of 80:11:9. Eligibility criteria under this scheme has also been enhanced from Rs. 1800/- to Rs. 12,000/- per month per family. In Delhi, 227 new crèches are planned to be set up by 31 March 2007.

2.2.4 Policies aimed at Improving Food Security of the Urban Poor

Public Distribution System

The Public Distribution System (PDS) ensures the distribution of essential items such as cereals, sugar and kerosene at subsidized prices to holders of ration cards. In order to reform and improve the PDS by focusing on the poor and needy sections of the society a Targeted PDS (TPDS) was launched in 2001. The objective is to identify the persons/families living below poverty line (BPL) and issue a distinct ration card for selling specified cereal items through PDS outlets at specially subsidized rates viz. half the normal issue price under PDS. In Delhi, families with income of Rs24,200 per year or less were identified as living below poverty line. As per the estimates of Planning Commission of India there were about 11.49 lakh BPL persons in Delhi in 1999-2000. Under the scheme BPL families are entitled to get 35 kg. food grains per month per family. Under this scheme 3.84 lakh cards have been prepared.

There were 2731 PDS outlets in Delhi in March 2006. On an average each

Fair Price Shop handles 1,000 ration cards. The number of households in Delhi that have ration cards was 25.95 lakh in 2005-2006.

Antyodaya Anna Yojna

Antyodaya Anna Yojna (AAY) is another scheme for the poorest section of population which is unable to procure two square meals a day on a sustained basis throughout the year and their purchasing power is so low that they are not in a position to buy food grains round the year even at BPL rates. Under the scheme, these families will be provided food grains at the scale of 35 kg per family per month. This scheme will be limited to 15.33% of the lowest segment of BPL families estimated by Planning Commission, Government of India in Delhi. Accordingly, 56249 cards were issued to AAY families under this scheme. The Government of India has now raised the ceiling for AAY families from 15 % to 30%. The exercise to identify additional AAY families has been started and more families will be covered under the scheme¹⁶.

Mid-Day Meal Scheme

Under the Mid-Day Meal Program a nutritious meal is provided to children of primary schools and nursery schools inter-alia for meeting the nutritional deficiency of the children especially to those who cannot afford to have a balanced diet.

In November, 2001, Supreme Court has directed States to provide 'cooked food' to every child in Government and Government aided Primary Schools with a minimum of 300 calories and 8-12 grams of protein each day for a minimum of 200 days in a year. The amount of Mid-day Meal has increased from Rs.2/- to Rs.3/- per child so that requirement of calorie and protein specified in Court order are met. Additional amount of Re 1/- per child as conversion cost will be provided by the Govt of India. Till 2004-05, cooked meal was served in schools run by Govt. and local bodies. In Delhi, the Mid-Day Meal program is run by three agencies namely MCD, NDMC and Department of Education. The scheme covers about 1 lakh children studying in Delhi Government schools and 10.65 lakh students studying in MCD schools. The programme has been extended to Govt. aided schools from 2005-06. The children enrolled in learning centers under SSA would also be provided Mid-Day- Meal.

16. Planning Department. 2002. Tenth Five Year Plan 2002-07. New Delhi: Government of the National Capital Territory of Delhi.

2.2.5 Multiplicity of Governing Bodies and Efforts towards better Convergence

The institutional framework for urban management in Delhi consists of a multiplicity of agencies, at both central and state levels, responsible for various aspects of planning, land management, urban infrastructure and its management. The institutions/agencies involved in performing city level functions include the State Government and the municipal bodies (MCD and NDMC).

In addition Delhi, being the National capital, has to serve certain functions directly under the jurisdiction of Central Government. Major decisions in planning and implementing the Master Plan are still taken by the Delhi Development Authority (DDA) - a central government authority. The elected government has very limited role in this process. DDA is also the largest land owning agency in Delhi with the MCD - the body in charge of slum development - having very little land at its disposal for slum development and resettlement. Delhi has been unable to implement the 74th Amendment mainly because land is outside the purview of the local government.

Slum clusters in Delhi unlike other cities are located on land owned by Central Government agencies such as the DDA, Railways and the CPWD. The responsibility of slum development and resettlement is the responsibility of the Slum Development wing of the MCD. This department faces problem in getting money from the land owning agencies for slum development and finding land for resettling the slum dwellers. The Municipal Corporation of Delhi needs special financial support from the Govt. of India for implementing plan programmes meant for the poor residing in JJ clusters and timely allotment of land for rehabilitation of these clusters to alternate project sites.

There is a lack of clarity over departmental responsibilities for land use planning, development, maintenance and enforcement. The geographical boundary of the State Government and MCD are co-terminus, and their functions are almost the same. In other cases, administrative and functional sub-divisions do not match. This has resulted in ineffective and uncoordinated decision making and actions. For eg., the boundaries of the revenue districts and the MCD zones do not match.

In order to address these issues, the city is initiating reforms in urban governance through implementation of various governance models such as Bhagidari Scheme; E-governance; Repeal of ULCR, PPP models for project implementation etc.

Coordination among different agencies involved in slum development in Delhi is essential for greater impact.

The Bhagidari Approach

Improving the partnership between the state government and the citizens has emerged as a priority to make the administration more accountable. The Delhi government has initiated a Bhagidari approach. Bhagidari is a program of partnership between the government (and allied agencies) and citizens, organized through Residents Welfare Associations, Market Traders Associations, village groups and non-governmental organizations. It is an attempt to improve governance and accountability by involving different stakeholders as partners.

Bhagidari Approach of the Delhi government involves resident associations in the process of governance and improves accountability. This needs to be extended to slum colonies also.

Different stakeholders participate in Bhagidari workshops to understand issues, explore solutions and implement them with the active support of Government. The presence of active civil society and non-governmental organizations is partly responsible for the growth of Bhagidari from 20 citizens groups in 2000 to over 1700 today. Bhagidari has spread to solid waste management, rainwater harvesting, greening and tree plantations, water distribution and development of community parks. bhagidari has also brought under its fold public education, care for senior citizens, women's empowerment and the functioning of government schools. Active involvement of citizens in Bhagidari has increased accountability in government and civic authorities and instilled in citizens a sense of ownership and public responsibility.

However, the operationalization of this concept is restricted to areas which have a Resident Welfare Association or a Market Welfare Association. Most urban poor colonies such as JJ colonies, pavement dwellers and other such poor communities do not have such an association and hence out of the process of dialogue initiated by Bhagidari. They too need to be involved to give a more comprehensive meaning to Bhagidari.

2.2.6 Policy Analysis and Suggestions

In order that the policies be effective and achieve the desired impact, incorporating the following suggestions can be considered:

1. Policies and programs need to be designed carefully through a participatory process in order that their real impact is maximized. Many times NGOs and community groups are involved only at the time of implementation of the scheme leading to incomplete prioritization of felt needs. Also, the potential of forming long term relationships with the community is lost in such a scenario.
2. Increased coordination and convergence: In view of the multiplicity

of high level government bodies (different departments of the state government, MCD and central government) in Delhi, coordination and convergence assumes added importance. A core working/ steering group at the state level involving officials of the health, social welfare departments from the GoNCTD, MCD, urban health experts and representatives from central government ministries could lay out a broad framework and guidelines which the district or zonal team can implement. A similar program committee at the district / zonal level that reviews all programs and schemes regularly would result in more synergy and better program impact. Where feasible non-governmental stakeholders should also be involved in this committee.

3. Rapid urbanization results in the addition of new slum and urban poor clusters. The slums lists are not updated on a regular basis. The district/ zonal authorities in collaboration with the elected ward members should create mechanisms for updating the slum list. This would help in correct estimation of population and strengthen the argument for increased human and financial resources.
4. As discussed in this section, policies and programs for the urban poor are framed by different departments. It is also necessary that officials and elected representatives are made aware of these programs and policies so that the resources of various schemes are adequately leveraged and utilized. Periodic workshops for elected representatives discussing program provisions and expected outcomes will help ensure greater political commitment to health and well being of the urban poor.
5. In order to effectively manage health services in challenging situations, officials should be exposed to examples of successful models of health services innovation in urban slums through exposure visits and the lessons learnt from such cases should be adequately adopted.
6. A similar kind of partnership on the line of Bhagidari scheme or Rogi Kalyan Samiti needs to be initiated at the urban health centre level to effectively address the health related challenges through a more positive involvement of the community. Basti Health and Sanitation Committees should be promoted and their capacity built with help of NGOs. Such committees can be platforms where basti residents can make collective efforts towards cleanliness, garbage disposal as well as health promotion.
7. The Master Plan emphasizes on increasing the availability of housing for Economically Weaker Sections (EWS) of society. The process of identification of EWS should be robust so that the truly needy sections of Delhi are benefitted and there is no misuse of these schemes.
8. The resources under the Sub-Mission on Basic Service of the JNNURM

Closer linkages between health services of MCD and GoNCTD can optimize resources and skills.

needs to be tapped to improve the conditions of the urban poor in Delhi. As of August 2007, 7 proposals from Delhi have been submitted to the concerned Ministry for the relocation of slum clusters and the construction of housing for the economically weaker sections. These schemes need to be implemented expeditiously and similar proposals for improving water, sanitation and drainage in the slums of Delhi should be submitted to the JNNURM and implemented.

2.3 Health and Nutrition Services in Delhi

Compared to other states, Delhi as a whole has a well developed health infrastructure. Delhi Government and the MCD form the backbone of the public health service delivery system in the city providing most of the health services in the public sector. Private health providers too are key players in the overall provisioning of the care services.

At the primary health care level, Delhi has a wide network of 969 dispensaries providing primary health care through Delhi Government, the MCD, the NDMC, the Cantonment Board and CGHS, ESIC, Railways etc. Besides there are a number of supplementary health services available like the School Health Clinics, Mobile Dispensaries etc.

In order to improve access of health services to the urban poor, the World Bank initiated the India Population Project -VIII (IPP-VIII). Delhi was one of the cities in which this project was being implemented from August, 1994. Under this project the MCD has opened 6 Maternity Homes, 21 Health Centres and 90 Health Posts to improve maternal and child health care, as well as family planning services. The funding for this project from the World Bank has ceased and the facilities created under the programme are now being managed by the MCD.

At the secondary and tertiary health care levels, there are 706 hospitals including 550 registered nursing homes with 33711 beds. There are 118 hospitals in the Govt. sector in Delhi. 31 hospitals are being run by the Govt. of NCT of Delhi, 53 by the MCD, 4 by the NDMC. There are also 24 Central Government Hospitals including ESIC, Railway Hospitals etc. Delhi's bed-population ratio is 2.07 beds per 1000 population which is better as compared to the national average of one per 1000.

Though the situation of health services in Delhi is much better than in other states, there are certain areas which require attention. This includes provision of health services to the large and rapidly growing urban poor habitations in the city which include JJ clusters, unauthorized colonies, resettlement colonies and pavement dwellers which have very poor access to health

Though Delhi appears to have adequate health services, most urban poor have limited access to health care.

services. The hospitals in Delhi also cater to a large number of patients from other states. It is estimated that nearly 33 per cent of the load in secondary facilities in Delhi is from neighbouring states¹⁶. This leads to further strain on the existing infrastructure in the city. Further, while some facilities and schemes are managed by the Govt. of Delhi, some are managed by the MCD and NDMC. Therefore, there is a need to have an integrated and coordinated approach to regulate and strengthen the health sector in Delhi through the realignment of existing structure and procedures for better synergisation of available resources.

The National Rural Health Mission (NRHM) envisages the integration of all vertical health programmes under one umbrella in the form of a single integrated health society. The Delhi State Health Mission has been formed which would act as this unified umbrella institution to integrate the various vertical programmes being implemented by the different departments in Delhi Govt., MCD, NDMC etc and the introduction of the Accredited Social Health Activist (ASHA). Improving the health and nutritional status of women and children, monitoring of quality of health, communicable disease control etc will be the areas of concern for the Mission. The Delhi State Health Mission would function under the chairmanship of the Chief Minister.

In May 2007, the Cabinet of the Delhi Government approved, the deployment of 5,450 ASHAs to cover 109 lakh residents of slums, JJ cluster, resettlement colonies, unauthorised colonies and rural villages. Under this scheme, women who volunteer from local community will be selected and trained to reinforce community action for universal immunisation, safe delivery, new-born care, prevention of water-borne and communicable diseases, improved nutrition and promotion of household/ community toilets. The activists will inform, mobilise and facilitate improved access to preventive healthcare and also provide basic curative care through the drug kit.

Janani Suraksha Yojana (JSY) is a safe motherhood intervention under the National Rural Health Mission (NRHM) being implemented with the objective of reducing maternal and neo-natal mortality by promoting institutional delivery among the poor pregnant women. JSY is a 100 % centrally sponsored scheme and it integrates cash assistance with delivery and post-delivery care. The success of the scheme would be determined by the increase in institutional delivery among the poor families.

In Delhi, all mothers below the poverty line above 19 years of age and all mothers belonging SC and STs are eligible under this scheme. A cash assistance of Rs. 600 is provided to the mother delivering in a

ASHAs will be deployed in all urban poor habitations of Delhi to improve access of health services.

The Janani Suraksha Yojana under the NRHM provides cash assistance to mothers from poor families who undergo institutional deliveries.

16. Planning Department. 2007. Economic Survey 2007-08. New Delhi : Government of the National Capital Territory of Delhi.

Table 5: Primary level Health Facilities in Delhi

Types of Centres	Nos.	Beds
A. Dispensaries		
Delhi Government	166	NA
MCD	38	NA
NDMC	11	NA
Central Government	68	NA
Railways	12	NA
Statutory Bodies	117	NA
B. Primary Health Centre		
MCD	5	47
DGHS	2	32
Sub-Centres attached to PHCs	48	NA
C. Maternity Hospital/Home		
MCD	23	301
NDMC	1	50
D. M&CW Centre		
MCD	109	NA
IPP VIII (Maternity Homes)	6	90
NDMC	14	NA
E. Health Centre		
MCD (IPP VIII)	21	NA
F. Urban Family Welfare Centre		
	69	NA
G. Health Post		
	28	NA

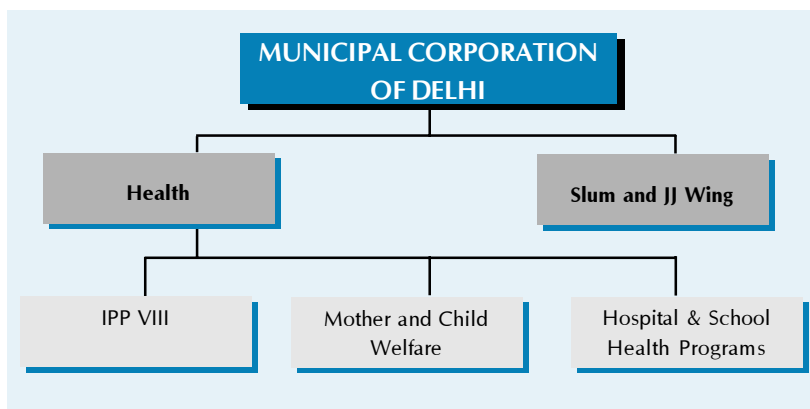
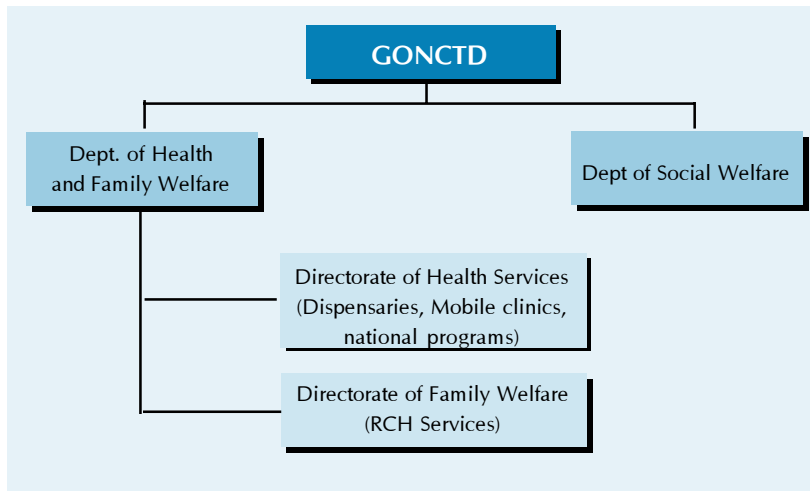
Source: *Health Facilities in Delhi 2005, Directorate of Health Services, GoNCTD*

health institution upto a maximum of two live births. In Delhi unlike some other states, no compensation is available under this scheme for the ASHA.

Mobile Health Scheme

In order to provide primary health care to the most vulnerable slum population of Delhi which do not have access to primary health care

Key Urban Health Stake holders



services, the Delhi government provides services through the mobile health scheme. This takes the health care to the door step of the people and reduces the work load on the hospitals. The mobile health scheme is being operated in partnership with NGOs. The government provides free medicines and a vehicle to the NGOs and manpower is arranged by them, salary of which is paid by the NGOs and not by the Govt. At present 21

NGOs are participating under the scheme and 25 vehicles has been allotted to them by the Mobile Health Scheme. Deptt. During the year 2004-05 a total of 1943044 patients were covered by the scheme.

Revised National Tuberculosis Control Programme in Delhi

Tuberculosis is an important health problem especially in slums given the poor environmental conditions, overcrowding and poor nutritional status among its residents. Under the Revised National Tuberculosis Control Programme, Delhi has 30 TB Units, 180 Designated Microscopy Centers and 465 private practitioners who are involved in the tuberculosis control programme. Further, 96 NGOs are involved in various aspects of the RNTCP such as health education, service delivery, training and evaluation etc. The NRHM- Programme Implementation Plan for 2007-08 for Delhi has prioritized to enhance the coverage in slums through a) providing support to ASHA, b) Providing support to NGOs for undertaking DOTS in slums and c) by scaling up IEC activities in slums¹⁷. Under the Urban DOTS scheme, local residents are appointed as Community DOT Providers to provide DOTS at patients' doorsteps. The State Government of Delhi has also initiated a project to provide DOTS to pavement dwellers. A doctor, along with a Senior Treatment Supervisor and a Laboratory Technician, visits the pavement dwellers early on Monday, Wednesday and Friday mornings, before they leave for earning their livelihood, and provides DOTS services to them according to RNTCP recommendations¹⁸.

Control of Malaria and Other Vector Borne Diseases

Vector borne diseases like Dengue, Malaria and Chikungunya are highly prevalent in Delhi. The environmental conditions and high urbanization in Delhi are the main causes of the continuous threat of outbreak of these diseases. After the outbreak of dengue in 2003, the Health Department has undertaken active measures such as providing new infrastructure, manpower, supplies of consumables, vehicles, machines, equipments, communication and establishment. It is proposed to extend anti larval measures in an additional 246 sq. kms. area, which is uncovered so far with provision of material, manpower and equipments. It is also proposed to establish a Virology for early detection and 20 Sentinel surveillance centers, identification and typing of various diseases so that timely corrective action may be taken in case of out breaks of diseases like Dengue, Malaria etc.

17. Government of National Capital Territory of Delhi. 2007. Delhi State Health Mission: State PIP-2007-08. Mission Director. Delhi State Health Mission.

18. Ministry of Health & Family Welfare. Directorate General of Health Services. 2007 TB India-RNTCP Status Report. GOI. New Delhi. Available at <http://www.tbcindia.org/pdfs/PERF1Q07.pdf>. Accessed 30 June 2007

Public Expenditure on Health

Public health expenditure undertaken by the Government of Delhi, over the past twenty years, has consistently remained over 6 per cent of the total plan budget¹⁷. During the Tenth Five-Year Plan, Delhi allocated 10.35 per cent of its plan outlay for health - the highest by any state governments in the country. Utilization rates have been consistently over 80 per cent of allocations for health. Delhi's per capita expenditure on health is more than three times the national per capita expenditure on health.

Year	Per capita Expenditure (Rupees)	
	Delhi	India
2001-02	409.19	137.51
2002-03	459.27	150.19
2003-04	492.20	159.46

Source: Planning Department, Government of Delhi

Despite these investments in health, the access of health services to the poor in Delhi is grossly inadequate. Though the aggregate health statistics of Delhi are considerably better than the national averages, not only are the urban poor in Delhi considerably worse off than their better off neighbours in Delhi, but are significantly worse off than their urban poor counterparts in other states. As shown in Figure 2, the access of health services such as antenatal care and institutional deliveries, the urban poor in Delhi fare is similar to less developed states like Madhya Pradesh and significantly worse off than Tamil Nadu and the all-India urban poor figures.

Access to health services among the urban poor in Delhi is significantly worse off than the urban poor in other states.

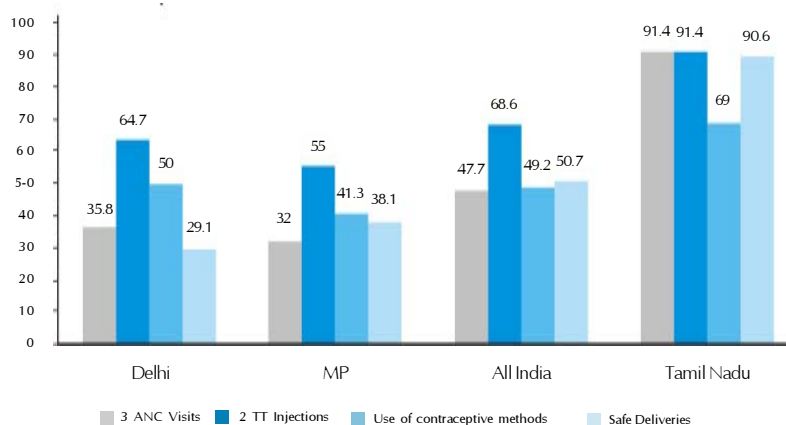


Fig 2: Access and availability of services among the urban poor (NFHS II)

Integrated Child Development Scheme

Up to the year 2004, Under the Integrated Child Development Scheme (ICDS), 28 ICDS projects with 3842 Anganwari centres were functioning in various parts of Delhi covering a targeted population of 4.61 lakh children up to age of 6 years, as well as pregnant and nursing mothers who are economically deprived. Under the ICDS, supplementary nutrition was provided to 4.82 lakh children and women through 3842 anganwaris in 2005-06. At present, supplementary nutrition is provided at the rate of Rs.2/-per beneficiary per day for about 300 days in a year.

To improve the nutritional and health status of girls in the age group of 11-18 years, the Kishori Shankti Yojana is being implemented since 1991. The program provides the required literacy & numeracy skills through the non-formal stream of education, to train and equip the adolescent girls to improve home-based and vocational skills, to promote awareness of health, hygiene, nutrition & family welfare etc. In Delhi, this program benefited 2318 adolescent girls from underprivileged communities.

The Government of Delhi is expanding the ICDS scheme to cover large section of uncovered population. A total of 526 new projects are being taken up either to cover the existing uncovered population within the present projects or to initiate ICDS activities in new areas. The following options can be considered for improving the reach of ICDS programmes

- i. To reach the benefits of ICDS to all urban poor it is vital to update ICDS lists through identification and mapping of all listed and unlisted slums / urban poor clusters. It is also vital to identify the neediest where incidence of malnutrition is highest. The criteria / methodology described in Section 1 can be utilized for this purpose.
- ii. Construction site and other temporary informal settlements which are usually small but vulnerable unlisted clusters could be catered through extension services of a nearby AWC or mobile services implemented in partnership with NGOs.
- iii. As the population density in slums of Delhi is very high, the population norms of an anganwadi center can be reconsidered. Where adequate space is available an anganwadi center can cater to 2000-2500 population. This center manned by one anganwadi worker and two helpers could be more efficient in slums with high population density. The strategy of designating one larger AWC with more space as a nodal anganwadi which supports a cluster of about 5 AWCs in the vicinity would be effective in strengthening health

behaviour promotion efforts. This would also help improve coordination of ICDS with the health department as outreach camps and other activities can be conducted in this nodal AWC.

- iv. In urban areas, involving the private sector for improving the reach and impact of ICDS is a clear opportunity. In slum areas which do not have ICDS services, NGOs can implement model projects including creche schemes. In other areas, NGOs can add value by providing high quality capacity building support to anganwadi workers, helpers and mahila mandals. Involvement of NGOs avoids program disruptions owing to transfer of officials which are common in government systems.
- v. Promoting women's groups and strengthening their capacities to address health and nutrition issues in their slums is part of the ICDS program. It is important that anganwadi workers be trained to encourage these groups in such a way that they collectively think, take decisions and undertake actions for overall well being of women and children in the basti. These groups can support the anganwadi worker in providing services and in promoting desirable maternal and child health practices in the community.
- vi. A robust monitoring and supportive supervision system that helps anganwadi workers enhance the quality of services is crucial. Training of ICDS project supervisors should be strengthened so that they can support the Anganwadi workers in regularly conducting key program activities such as Nutrition and Health Days, counselling of pregnant and lactating mothers and early childhood education. Supervision should be aimed at enhancing skills, supporting and ensuring regular activities and completing requisite reports.
- vi. Department of Social Welfare can partner with NIPCCD and Home Science Colleges and Social Work Institutions for running model ICDS projects through their respective extension departments. The field projects under their curriculum may be in close proximity to the institution so as to facilitate close monitoring and support of anganwadi workers.

Closer coordination between ANM and ICDS worker will ensure better impact on behaviour change and health promotion efforts

Options for Improving Health Care Delivery for the Urban Poor

1. Mapping of Slums and other urban poor settlements for better planning

- It is important to map all unauthorized colonies, JJ clusters and other urban poverty clusters at the District or Municipal Zone level. Such maps depicting location of slums and urban poor settlements, health facilities

There is a need to align health facilities belonging to different agencies

and providers and other stakeholders will enable comprehensive planning and robust monitoring.

2. Alignment of primary health facilities operated by different agencies -

In some areas, more than one facility operate such the same premises, often not in the proximity of the needy clusters which therefore remain underserved. The primary health facilities are also of diverse nature and managed by different authorities. There is a need to bring uniformity among different primary health facilities and allocating defined catchment areas to each facility. This ensures more accountable health care with a dedicated focus on the slums and the urban poor. Given the crucial role played by Anganwadi centers in promoting health and behaviour promotion in Delhi, there should be closer integration of the activities of primary health facilities and Anganwadi centers to optimize resources and skills of the two departments.

3. Augment urban health infrastructure and services - As discussed, slum in Delhi have poor access to primary health services. Moreover, rapid increase in slum population has rendered the already limited health facilities, further inadequate. As a result, most slum communities are either left out of health services or receive poor quality health care. Where there is a gap, new primary health infrastructure should be created which are easily accessible to slum communities. It should also be ensured that all slums including unlisted and hidden pockets are brought under the service coverage of health facilities. There should be efforts to upgrade the existing primary health infrastructure in Delhi.

Partnership with the private sector is an effective way to increase access of health services to the urban poor.

4. Coopt private sector services - The large presence of private providers makes it imperative that the private sector plays a key role in the delivery of health services in Delhi. The need is to build a system which promotes effective participation of private sector with dignity as an equal partner. In areas there is no coverage of public sector primary health services, NGOs can be contracted to manage urban health centers and provide outreach services. Given the experience of organization working among vulnerable sections, NGOs can also be involved in social mobilization of slum communities and promoting awareness, demand and utilization of health services. The services of Private practitioners can be utilized for conducting outreach health camps in urban poor clusters of about 10,000 to 15,000 utilizing funds allocated for this purpose. The private sector can be utilized in providing diagnostic and other support services in second tier facilities.

5. Strengthen community capacity and access to services - Efforts must also be made to improve the access of public health care facilities. Link workers selected from the community and provided appropriate training

can improve access to health services and improve the health status of the community. Strengthening community based organizations like SHGs, Basti Vikas Samitis, Mahila Mandals etc is an effective mechanism to strengthen linkages between the community and the health system. Such groups can complement the efforts of health workers in generating awareness about health issues and counseling for family planning.

6. Community Health Funds - As lack of money during health emergencies is an important reason for not accessing services, health funds managed by community based organizations should be promoted. These health funds serve as community based risk pooling mechanisms and ensure a ready source of money to utilize health care and reduce the burden of morbidities and mortality. CBOs if properly trained and supported can independently manage these funds as seen from examples such as SEWA and Urban Health program in Indore and Agra. These funds also encourage the saving habit in slum communities.

2.4 Situation Analysis of Shahdara North and Narela (Municipal Zones of Delhi)

Background

The Government of India having recognized urban health as a thrust area selected Delhi as one of the four cities for developing sample urban health proposals. These proposals were to serve as examples for planning sustainable systems that could provide comprehensive primary and secondary health care to the vulnerable urban population. Given the size of Delhi, there was a discussion on what should be the most appropriate unit of planning. During the discussions with GoNCTD, MCD and Gol officials, it was determined that the municipal zone be used as the unit of planning for urban health. Hence, it was decided that the proposal would be developed on a zonal basis. The Urban Health Situation analysis¹⁷ was carried out from January – April 2005 in Shahdara North zone and subsequently in Narela to develop the urban health proposals^{17,18}. The Situation Analysis of the two zones is presented below as a reference case study of planning health services in a zone having a large and rapidly growing urban poor population.

Urban Slum Scenario

Shahdara North lies in the Trans Yamuna area of Delhi in the North East district. It is spread in 18 Municipal Wards over an area of 60 sq km. The boundaries of the zone are co-terminus with the boundaries of the

Link volunteers and community based organizations can help in increasing knowledge, demand and use of health services.

Sample urban health proposals have been developed for Shahdara North and Narela zones - two zones having a high proportion of urban poor population.

17. Govt of NCTD and MCD. 2006. Five Year Urban Health Proposal (Under RCH II) for Shahdara North. New Delhi: GNCTD and MCD.
18. Govt of NCTD and MCD. 2006. Five Year Urban Health Proposal (Under RCH II) for Narela. New Delhi: GNCTD and MCD.

North East District. As per the Census of 2001, this zone had a population of 17,16,569 and has experienced the highest population growth in Delhi with a decadal population growth rate between 1991 and 2001 of 62%. The district also has the highest population density of 29,397 persons per sq. km. Shahdra North zone has a large poor population. The data provided by the Slum & JJ wing estimates that at present there are 36 *Jhuggi Jhopri* clusters with an estimated population of 2,36,000. However, all urban poor in the zone are not living in *jhuggi jhopri* clusters; they are also residing in unauthorized colonies, urban villages and resettlement colonies.

Narela located in North West District of Delhi and has four Municipal Wards over an area of 335 sq. km. As per Census 2001, the total population of Narela is 532,115. The North West district as a whole has a decadal population growth rate of 60.1 and a population density of 6471 km. According to the Slum and JJ Wing there are 15 *Jhuggi Jhopri* clusters.

Of all the twelve Municipal zones in Delhi, Narela zone displays a unique mix of rural and urban characteristics. The zone is undergoing a rapid process of urbanization and industrialization. Due to unplanned urbanization Narela has undergone a transformation in the last decade or so and converted into a residential area with a mushrooming growth of unauthorised colonies.

The Delhi State Industrial Development Corporation is developing over 16000 industrial plots in the industrial estates proposed at Bawana and Holambi Kalan for relocation of non polluting industries. It has been estimated that in view of future employment prospects an estimated 7 lakh workforce would be required for meeting the direct and indirect needs of the industries in the area. This development is altering the demographic profile of the area as landowners especially in the vicinity of factories are constructing houses for purposes of renting them out to low income migrant factory workers who find the village rent levels much less as compared to other planned areas. Also, proper zoning to separate industrial and residential land use is not being done. Accordingly, the habitat is getting transformed in response to the housing needs of numerous migrants.

Living Conditions in Urban Poor Habitations

** The methodology used for carrying out this situation analysis included: Review and analysis of Information from secondary sources including Desktop and library searches, analysis of available data (NFHS); Key Informant Interviews; Representatives from Municipal Corporation, Health Department, NGOs and CBOs; FGDs and Slum Visits*

Slums and urban poor habitations in Narela are witnessing rapid growth because of relocation of industrial units

The situation analysis helped in understanding the environmental living condition in the above category of habitations. Select highlights of the situation analysis are presented below:

Housing: Majority of the houses in Shahadra North are pucca (unplastered) built in a plot of 25-50 sq. gaz plots. In most of the houses more than one family are living. Majority of the families have a one room accommodation. The population density in these areas is very high with almost 30000 persons/sq. km.

But in Narela Zone, due to its prominent urban village characteristics and sparsely population, majority of houses are pucca built on plots of 50-100 sq. yards. In urban villages, the plot sizes are considerably bigger and are upwards of 100 sq yards in area. Rents range between Rs. 500-1000 and making housing on rent a viable option in relation to other planned areas.

Drainage and Roads: Most of the colonies have open drains which are blocked. There is no mechanism for cleaning and the residents themselves clean the drains. In urban villages of Narela, the situation is slightly better with the drains being pucca and cleaned regularly. Though the main roads are pucca/ kharanja, the bylanes are kuccha. The open plots in the colonies are used as dumping grounds for the garbage disposal.

Drinking water: Majority of the houses do not have pipe water supply. Normally there are one or two public stand posts which are used by the local residents for drinking water purpose. Most of the taps are located very near drains. All the houses also have shallow handpumps which provides them water for other purposes.

In Narela, majority of the houses do not have piped water supply; instead, most of the houses have shallow handpumps which provides them non potable water for washing and other uses. In many of the areas tankers are pressed into service to make up for the shortfall. But in urban villages, most of the houses have water connections from Delhi Jal Board.

Sanitation: In Shahdara most of the houses have their own individual household toilets the high person per toilet ratio results in children and some adult members defecating in open. This outweighs the health and hygiene benefits of having a toilet.

In Narela, despite most of the houses have their own individual household toilets, a large section of the population including the migrant population practices open defecation in the agricultural fields. Community

Poor water supply and sanitation plagues the urban poor localities of Shahdara North and Narela.

toilets (Pay and Use) are not being maintained properly ostensibly due to 'lack of sewerage facilities'.

Health Vulnerability of Slums

Vulnerability assessment of urban poor habitations in Shahdara North and Narela was conducted based on the methodology described in Section 1 of this report. This methodology grades slums on the basis of the following factors - economic, social, environmental, access to public health services, health conditions and negotiating capacity of residents. This exercise classified 85 urban poor habitations as most vulnerable; 77 as moderately vulnerable and 19 as least vulnerable in Shahdara North. In Narela, out of total 200 urban poor habitations, numbers of most, moderate and least vulnerable urban poor habitations are 88, 68 and 44 respectively.

Vulnerability Status of Urban Poor Habitations

	Most Vulnerable	Moderately Vulnerable	Least Vulnerable	Total Vulnerable
Number of Urban Poor Habitations Shahdara North	85	77	19	181
Narela	88	68	44	200

Health Care Delivery System

Municipal Corporation of Delhi and Delhi Government are responsible for the provision of health care services. It provides health care in the form of preventive, promotive and curative services, medical education and other services including the registration of births and deaths. In addition, there are large numbers of private health-care service providers.

Directorate of Health Services, GoNCT Delhi: First Tier Services

The Directorate of Health Services is the nodal department of Delhi Government for providing health care services. It also coordinates with non governmental and private health care service providers. The following type of health facilities are managed by the department in Shahdara North and Narela zone

Dispensaries and Health Centers

In Shahdara North and Narela there are 20 and 15 dispensaries respectively, which are front-line health outlets providing primary health care services to the community.

Mobile Health Scheme

The Mobile Health Scheme is being implemented with the aim of providing primary health care outreach services to the residents of JJ clusters. NGOs have also been contracted to operate mobile dispensaries.

School Health Scheme

This scheme was started in 1981 to provide basic medical services to the students in the age group of 10-18 years studying in various government schools of Delhi. Screening for common diseases, deworming program and Iodine Deficiency Disease Control Program are the key components of the program.

Primary health care facilities are grossly inadequate in the slums of Shahdara North and Narela.

Municipal Corporation of Delhi: First Tier Services

The Municipal Corporation of Delhi is also providing health care facilities to the residents in its area. The MCD has a focus to provide the RCH facilities. Hence besides hospitals and dispensaries it also has mother and child welfare centers. Besides this the MCD is also responsible for managing the World Bank funded IPP VIII project for improving the delivery of the RCH services.

Mother and Child Welfare Centers

These are the first point of contact for making provision of RCH services in the urban areas. There are 15 such centers in Shahdara North which are responsible for providing RCH II package of services. Beside this there also is one Maternity center and one health center constructed under IPP VIII project for providing RCH services. In Narela, there are 3 Mother and Child Welfare Centres, 2 Maternity Homes, 3 PHCs and 2 IPP-VIII dispensaries for providing RCH II package of services.

Directorate of Family Welfare

The Directorate established under Delhi Administration provides RCH services through contracted ANMs attached to various dispensaries.

Despite the various types of health facilities operated by different stakeholders, the coverage of health services among the residents of Shahdara North is very limited contributing to poor health outcomes. The

adverse staff to population ratio results in several areas being totally left out and seriously compromising the quality of health services in others. Rapid mobility of population is also a challenge for effective reach of health services. Lack of effective linkages with the community also hinders the delivery of health services.

In Shahdara North there are in total 15 first tier services providing health care services related to RCH. Hence in Shahdara North there is a large chunk of population which is not covered by a dedicated health care delivery system. As per the data provided by the CAMO, Shahdara North **only 27% of the population has access to RCH services. Even those areas which are supposed to be under the catchment area of the health centre are underserved due to lack of staff.**

The lack of staff along with a large area not being covered adversely affects the access by the community.

Another major challenge in Shahdara North in delivery of RCH services is the migratory nature of population. The delivery of RCH services requires timely intervention; however the migratory nature of the population makes the process of delivery very difficult as the person cannot be tracked after first contact for delivery of the services.

In Narela Zone, there are a total of 30 first tier services providing health care services related to RCH if we include the facilities of both GoNCTD and MCD for an estimated population of 13 lakhs. Going by the GOI guidelines of establishment of one Urban Health Centre for a population of 50,000, in terms of the overall ratio of health facilities: population norm, Narela zone meets the norms with one UHC per 44000 populations.

On correlating ward wise population clusters with health facilities, we find that the distribution of health facilities has become spatially skewed over time. The overall skewed distribution of health services needs to be viewed in the light of rapid urbanization of the area and a proliferation of unauthorised colonies with high population densities. While the urban village areas have a scattered population profile, the unauthorised colonies especially in Kanjhavala and Narela wards have dense population groupings. Urban health planning in the Narela Zone would need to have a differential approach while planning for health services delivery keeping in mind that the population is spread over 335 sq. kms.

Analysis and Key Highlights for Guiding Interventions

In the light of the situation analysis carried out in the slums of Shahdara

North, interventions to improve the health of the urban poor should consider the following issues to enhance effectiveness and achieve optimal impact:

All Slums are not equal: Need for targeting the vulnerable

The health vulnerability assessment in the slums of Shahdara North has revealed that all slums are not alike and that some slums are needier than the others. It is therefore necessary to target resources and efforts at the more vulnerable slums for more effective health programming.

Slums are not equally vulnerable and it is essential to focus on the most vulnerable.

Improving Health service delivery

Available health infrastructure is inadequate and quality of preventive and curative services is weak due to increasing population load on existing resources. Improving service coverage involves improvement of health service delivery through:

- n Integrating the existing first tier health care services under different government departments and local bodies
- n Establishing new urban health centers in areas which are un-served
- n Relocation of health facilities where there is duplication of health facilities of different agencies
- n Increasing the availability of the staff as per the norms on contractual basis
- n Ensure regular outreach services to vulnerable urban poor habitations
- n Streamlining the referral systems to optimize load at secondary and tertiary facilities.
- n Making the timings of health facilities more convenient as the poor bear a high opportunity cost in accessing government health facilities. The government should consider opening facilities in the evenings which is more convenient to the poor.

It is essential to the health facilities of MCD, GoNCTD and other agencies are aligned to cover all vulnerable clusters in Delhi.

Partnership with the formal private sector and informal providers to rapidly expand reach of services to the unreached

- n The vast reach of private health providers can be effectively used to improve health status of the urban poor. The not-for-profit private sector agencies can be accessed for a) provision of 1st tier services in select zones; b) provision of 2nd tier services in identified areas; and c) strengthening community linkages of Public sector services through partnership with NGOs and charitable/ not-for-profit health agencies having experience in social mobilization.

Partnership with the private sector is an effective strategy to rapidly expand health services to the underserved.

Linkages among various stakeholders and with the community results in improved and more regular services to the urban poor.

- n Facilitating training and follow-up of key health providers such as traditional birth attendants and RMPs (unqualified medical practitioners) whose services are utilized by slum dwellers

Improve linkages with the community and promote demand and awareness about health services.

- n Linkages and coordination between community and providers and among the providers themselves to improve service regularity and coverage e.g. strengthening linkages between ANM and AWW; and between traditional birth attendants and maternity services. The first tier could implement a community health promotion strategy, by way of promoting community-provider linkages through the link volunteers and *Mahila Aarogya Samitis* promoted at the slum level
- n To improve awareness and demand for health services intensive IEC/ BCC would enable the community and generate a positive environment for the delivery of services.
- n In order to develop a participatory management system for ensuring convergence of different stakeholders as well as participation of community leaders in the management of health care facilities, coordination committees at the urban health center level should be constituted.

Improving Sanitation and Environmental living conditions

The poor sanitation and environmental conditions in the urban poor habitations are the result of the lack of effective coordination among various government departments and the urban local body. In order to improve coordination and leverage resources as per the vulnerability a multi stakeholder task force can be formed at the zone level.

Improving Inter-Sectoral Coordination at District / Zonal Level

As there are number of agencies working in slums of Delhi, it is essential that there is coordination among them so that there is maximum impact of developmental programmes. A coordination committee at the district / zonal level comprising members of Health Department, GoNCTD, MCD, IPP-VIII, Social Welfare department, Slum and JJ wing etc will help ensure coordination among the different agencies.

SECTION 3

Health and Nutrition Conditions among Urban Poor in Delhi

SECTION 3

Health and Nutrition Conditions Among Urban Poor in Delhi

(Reanalysis of NFHS 2, 1998-99 data)

3.1 Overview and Methodology

There is very limited information available regarding the health conditions of urban poor in India. Most available information including the National Family Health Survey (NFHS) provides only rural – urban comparisons. This commonly leads to false conclusions about the conditions of the urban poor as the urban averages tend to mask the inherent inequalities that exist. There is a need to disaggregate the existing urban health data by economic status to unveil the disparities which exist in the health status among different economic groups. The Standard of Living Index (SLI), an asset based indicator provided in the NFHS datasets, provides an opportunity to analyze health information by economic groups.¹

In this section, health information provided by the NFHS-2 is disaggregated by the SLI. Various studies and a consultation with a panel of experts have validated the use of SLI as indicative of the economic status of the household (Annex 1). **The figures for the low SLI segment of urban population have been taken as representative of ‘urban poor’. Medium SLI and high SLI have been taken as representative of middle income and high income groups respectively.** This endeavor of disaggregating health data by economic status is aimed at providing a better picture of reproductive and child health in urban slums and other urban underserved

There is limited information on health of the urban poor.

Urban averages mask the inherent inequalities which exist within urban areas.

The NFHS is a national level household survey to gather information on fertility, family planning, infant and child mortality, reproductive health, child health, nutrition of women and children, and the quality of health and family welfare services. The first survey was conducted in 1992-93 and the second round was done during 1998-99. The NFHS 2 sample represented more than 99 percent of India’s population living in all 26 states. It covered approximately 90,000 ever-married women in the age group 15–49 at the national level and 2477 women in Delhi.

¹ *The SLI used in the NFHS is a summary measure calculated by considering the house type, toilet facility, source of lighting, main fuel for cooking, source of drinking water, separate room for cooking, ownership of house, ownership of agricultural land, ownership of irrigated land, ownership of livestock and ownership of durable goods by the household.*

settlements. This will help policymakers and program administrators in planning and implementing strategies more effectively for improving population, health, and nutrition programs for the urban poor.

Distribution of Urban Sample of Delhi by SLI

Table 6 shows the sample size by SLI for number of households, currently married women, ever-married women and children under age 3.

Table 6: Population Characteristics by SLI covered in NFHS-2 in Delhi

Urban Population	Category by SLI			Total
	Poor	Medium	High	
Number of households	83	722	1672	2477
Number of currently married women	58	588	1464	2110
Number of ever married women	63	623	1526	2212
Number of children under age 3	44	221	425	690

3.2 Background characteristics of the Urban Poor in Delhi

The socio-demographic composition of any population based on aspects such as caste, religion, age and schooling is usually correlated with the health outcomes. The composition of the urban poor in Delhi is different from the rest of the city. The composition of the urban poor and associated challenges are presented as follows:

- n Nearly half (47%) of the urban poor population in Delhi is under 15 years of age. The corresponding figures for the urban high income and

As this report was being finalized, the data of the District Level Household Survey (DLHS) conducted during 2002-04 was released. This survey funded by the Ministry of Health and Family Welfare and carried out by the International Institute of Population Sciences, Mumbai aimed to provide district level estimates of RCH conditions among the population. In Delhi, the survey covered a sample of 6224 married women of which 5831 resided in urban areas of the state.

With the objective of presenting more recent data on the health of the urban poor population in the state, we have analyzed this data by the Standard of Living Index (SLI) and presented in Annex 3.

urban averages are 29.5 and 32.3 respectively. The young age structure of the population highlights the momentum of continued population growth in urban poor areas. The unique needs of adolescents who would be shortly entering the reproductive age should be catered through context specific programs so that desired behaviors are practiced by them in future.

- n A vast majority (86%) of the urban poor in Delhi are illiterate compared with 14 per cent among the urban high income group and urban average of 27 per cent. The school attendance especially among girls is also much lower among the urban poor. The low level of education poses a number of challenges in the adoption of recommended behaviors pertaining to care of mothers and babies.
- n Urban poor in Delhi have a higher proportion of people belonging to SC/ST/OBCs (69 %) in comparison to the urban high income segment (Fig 3). The SC/ST/OBC groups are worse in their fertility levels, family planning acceptance rates, infant and child mortality and utilization of maternal and child health services. Hence, special efforts are needed to reach these groups (which constitute a major proportion of the urban poor) as they continue to be left out of various developmental programs.

Urban poor have higher proportion of SC / STs, Muslims and illiterate population. They also have a younger age structure.

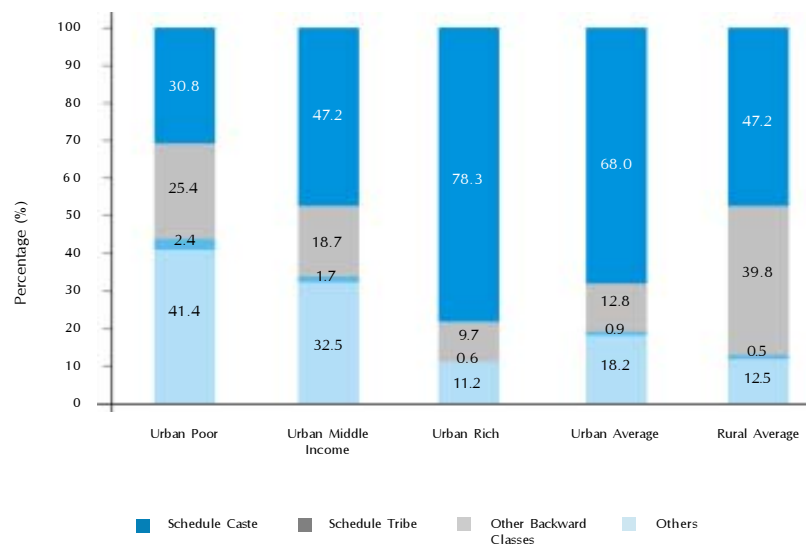


Fig 3: Caste Composition of Urban Delhi by Economic Groups

* Scheduled Castes (SC) and Scheduled tribes (ST) are the castes and tribes which are specified under the Article 341 of the Indian Constitution. The Other Backward Castes (OBC) are those castes/communities that are notified as socially and educationally Backward Classes by the State Governments or those that may be notified as such by the Central Government from time to time.

Infant and child mortality among urban poor are significantly higher than urban averages.

The urban poor in Delhi have a higher proportion of Muslims (20.6%) compared to the urban rich (5.5%) and urban average (7.9%) As health care provision to this group poses certain unique challenges, the higher concentration of Muslims in underserved urban localities needs to be factored in while designing health and population stabilization interventions.

3.3 Neonatal, Infant and Child Mortality

Infant and child mortality* rates reflect the level of socioeconomic development and quality of life and are used for monitoring and evaluating population and health programs and policies. The neonatal, infant and child mortality rates for Delhi as a whole at 27.4, 45.9 and 58.4 as a whole is very similar to the urban all-India figures and significantly lower than the urban figures for poor performing states like UP and Madhya Pradesh. However, when we compare the urban poor figures for Delhi, not only is it significantly worse off than the all-India urban poor figures but is comparable to the urban poor figures in poor performing states of India like Uttar Pradesh and Madhya Pradesh. Needless to say, the urban poor mortality rates are significantly worse off than the middle and high income groups within Delhi. The comparisons of mortality rates among the urban poor in Delhi compared with other groups is as follows :

Neonatal mortality rate is high among the urban poor at 39.3 per thousand live births in comparison to the urban average of 27.4 (Fig 4).

- n Infant mortality rate among the urban poor is 94.4 per thousand live births as against the urban average of 45.9 (Fig 4).
- n Under 5 mortality rates (U5MR) vary dramatically among the various categories of urban areas. The U5MR is significantly high at 135.5 among the urban poor as compared to the urban average of 58.4.

** Mortality rates are defined as :*

Neonatal mortality rate: The number of children dying in the first month of life out of one thousand live births.

Infant mortality rate: The number of children dying in the first year of life out of one thousand live births.

Under 5 mortality: The number of children dying in the first five years of their life out of one thousand live births.

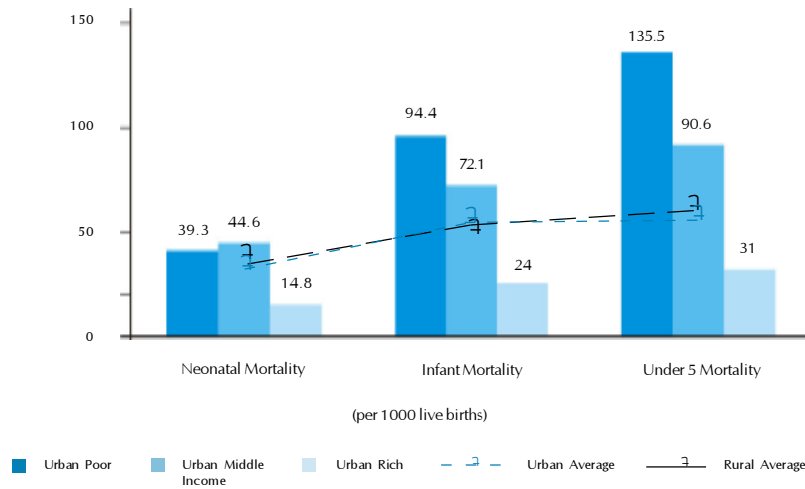


Fig 4: Neonatal, Infant and Child Mortality in Delhi by Economic Groups

Policy Provisions and Program Recommendations

The high neonatal, infant and child mortality rates among the urban poor underline the need for effective integrated reproductive and child health programs. A life cycle approach is necessary since a woman is anemic prior to conception and throughout pregnancy. This results in exhaustion of her limited iron stores further compounded by closely spaced pregnancies. Sub optimal fetal growth ensues, which increases susceptibility to neonatal and post neonatal mortality.

Skilled attendance at birth, essential newborn care, timely referral for sick babies and services such as immunization are simple interventions being implemented through RCH programs for addressing the multiple causes of childhood mortality. The reach of such high impact interventions needs to be improved through training and participation of *dais* (traditional community based birth attendants) and community health workers. A critical factor contributing to the impact of the India Population Project VIII, in Delhi has been the training of ANMs.¹ These measures, though not visibly effective in the short-term, are vital to pursue for improving maternal health and reducing incidence of low-birth weight with the long-term objective of improving child survival, development and health.

It has been observed that for a majority of the urban poor the first point of contact for health care are the private health providers². These providers often lack necessary skills and systematic efforts are needed to improve skills of registered medical practitioners and indigenous medical practitioners in caring for neonates and infants and making appropriate

Promoting safe delivery practices and avoiding early and closely spaced births will address high neonatal mortality.

1. India Population Project VIII, End Line Survey, Institute for Research in Medical Statistics, Ministry of Health and Family Welfare, GOI, 2003
2. USAID-EHP, Situational Analysis of Shahdra North, 2005.

Addressing poor hygiene and malnutrition among urban poor children will contribute to lower post-neonatal mortality.

referrals. It has been documented that health practitioners often fail to refer sick neonates, having features of sepsis, pneumonia, meningitis, major congenital malformations, birth asphyxia or prematurity, for hospitalization³. Child care schemes implemented under the National Crèche Fund also need to be scaled up and strengthened to ensure better care of children of working slum dwelling women.

In order to identify high-risk pregnancy cases and to reduce maternal mortality, Delhi Government organizes *Matri Suraksha Abhiyan* (Safe Motherhood Campaign) with provision of special ante-natal services to expectant mothers. Under the Child Survival and Development program, activities such as immunization of children in the age group of 0-5 years and pregnant women in all the JJ Clusters, basic services, diarrhea management, family planning/health check up and nutrition programs are carried out.

3. Bhandari N. Pathways to infant mortality in urban slums of Delhi, India: implications for improving the quality of community and hospital based programs J Population Hlth Nutr 2002; 2: 148-155.

KEY MESSAGES

- Neonatal, infant and child mortality rates among the urban poor in Delhi are amongst the highest in the country.
- There is a wide disparity between the health indicators amongst urban poor in comparison to higher income groups.
- It is essential to streamline and increase coverage of antenatal and childbirth care services in order to reduce maternal and neonatal mortality
- Increasing vaccination coverage and improving sanitation and water supply can address the cause of post neonatal mortality to a considerable extent.
- An integration of child survival strategies with maternal health is required for sustained improvements in child survival and health.

3.4 Childhood Morbidities and Health Services

The greatest risks to life are in its beginning, but they do not disappear as the newborn grows into an infant and young child. Programs to tackle vaccine preventable diseases, malnutrition, diarrhea or respiratory infections still have a large unfinished agenda among vulnerable slum communities in Delhi.

Immunization

Outbreaks of vaccine preventable diseases are more common in urban slums owing to high population density and continuous influx of a new pool of infective agents with the immigrating population^{4,5}. Measles increasingly occur at younger ages with associated higher mortality because of exposure to infected siblings in the small living space of slums⁶. Resurgence of diphtheria in urban slums is being increasingly reported in recent literature. The main reasons cited are lack of immunization, rapid migration and overcrowding in slum settings.

The vaccination of children against six serious preventable diseases (tuberculosis, diphtheria, pertussis, tetanus, polio and measles) has been a cornerstone of the child health care system in India. Immunization programs in urban areas can exert significant effects on vaccine preventable disease associated mortality by limiting the number of cases, decreasing clustering of cases within households and by decreasing the susceptible pool potential cases.

Disaggregated NFHS 2 data of Delhi by economic groups relating to immunization coverage reveal that:

- n Only one-fourth (24.7%) of all urban poor children aged 12-23 months had received complete immunization* .(Fig 5)
- n Only about a third (37.3%) of children from urban poor households are vaccinated against measles by the age of 12 months as compared to the urban average of 76.7 percent.
- n Dropout and left out rates[❖] are far higher among urban poor households (36.6 % and 25.9 % respectively), in comparison to the urban average (11.4 and 9.1 % respectively). Drop outs are related

* *Complete Immunization - one dose of BCG, three doses of DPT and OPV, and one dose of Measles as per the GOI guidelines.*

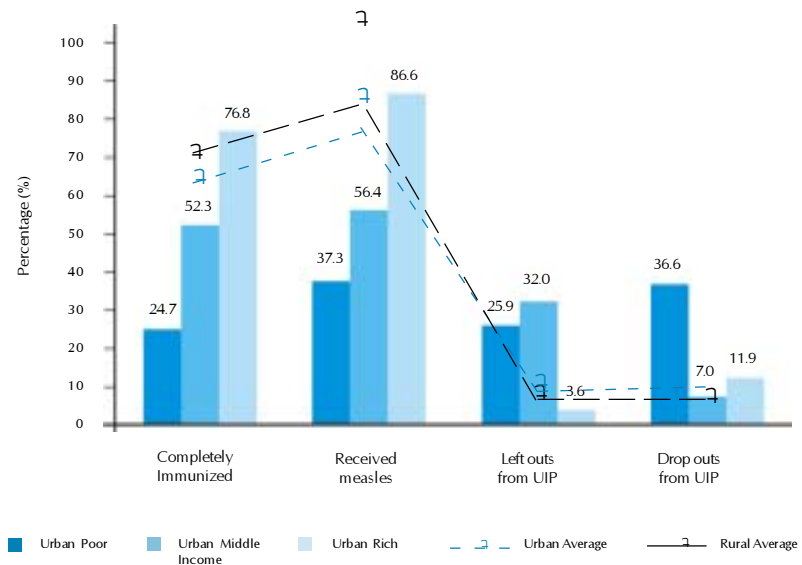
❖ *Dropout rate is the proportion of eligible children who received DPT1 but did not receive DPT3 and left out rate is the proportion of eligible children which did not receive any vaccination in the first nine months.*

Lack of immunization, rapid migration and over-crowding in slums results in high prevalence of vaccine preventable diseases.

Only one-fourth of urban poor children in Delhi receive all recommended vaccinations.

4. Loening W, Coovadia H. Age specific occurrence rates of measles in urban, peri-urban, and rural environment: Implications for time of vaccination. *Lancet* 1983; 322 : 324-326.
5. Lal, S. et al. Innovative approaches to Universalize Immunization in rural areas. *Indian J Comm Medicine* 2003; 28: 51-56.
6. AFP Alert. National Polio. Surveillance Project. A Govt. of India - WHO Initiative volume 6, No. 3, July 2002-Dec. 2002.

Fig 5: Immunization Coverage among children aged 12-23 months by Economic Groups



It is necessary to extend immunization coverage to all slums including unlisted slums and children of temporary migrants.

to inefficient monitoring of service quality (in form of supportive supervision of health staff and identification of training needs) and service utilization for immunization. Further, left outs are often not identified as they are “difficult to reach” due to (a) their residence being in a distant pocket of the slum or (b) the family being a recent migrant with limited information about immunization services (camp dates and venue) or (c) families resistant towards immunization. The higher drop out rate in comparison to left out rate in urban areas highlights the fact that though physical reach/access exists in urban areas, active outreach sessions, follow up and consistent quality of services need rigorous improvement.

Policy Provisions and Program Implications

Mother’s lack of information is the major cause of non immunization⁷. Thus, there is a need for making special IEC efforts to cover all eligible children in the urban slums for immunization focusing with an inbuilt sensitization strategy addressed to mothers.

Factors that need attention to improve immunization coverage among the urban poor include the following: (i) The catchment areas of UHCs (or Health Posts etc.) are often not defined and updated as a consequence of the unplanned character of urban growth. (ii) Health care providers should be sensitized not to deny immunization to temporary migrants also. (iii) It has been observed that events such as the Pulse Polio Campaign divert efforts of ANMs away from routine immunization programs. (iv)

7. Malini Kar, et al, Primary Immunization Status of Children in Slum Areas of South Delhi-The Challenge of reaching Urban Poor. Indian J Comm Medicine 2001; 26.

An important factor impeding immunization coverage is lack of awareness among the slum dwelling community about complete immunization schedule and its importance. (v) Distance of the urban poor from the government facility, overcrowding and delays leading to loss of daily wages are some of the other factors which need to be addressed for improving coverage of the immunization programs (vi) Supply problems related to vaccines need to be streamlined.

Department of Family Welfare, GoNCTD has provisions for vaccinating children with MMR, Hepatitis B and typhoid along with other vaccines under State EPI schedule. Such projects need to be expanded to include urban poor habitations.

Focusing on age appropriate immunization is crucial to ensure its benefits to infants.

Diarrhea: Prevalence, Practices and Treatment

Diarrhea is the second most important killer of under-five children world wide, outnumbered only by acute respiratory infections⁸. Diarrhea is very common among urban poor in Delhi with 45.6 percent children suffering from it in the two weeks preceding the survey (Fig 6). This is significantly

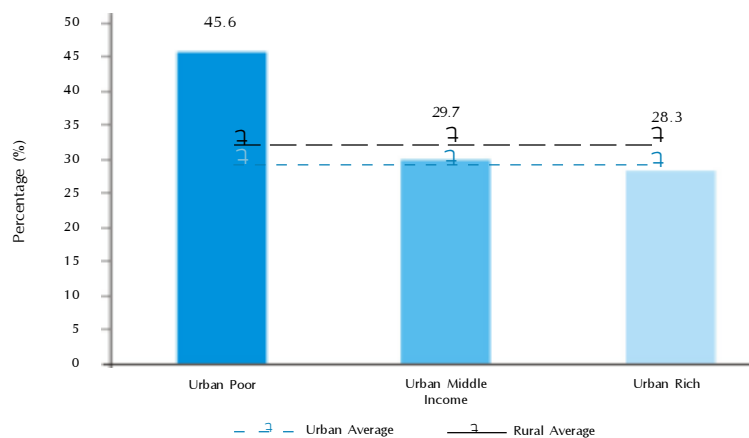


Fig 6: Prevalence of diarrhea 2 weeks preceding the survey by Economic Groups

higher than the overall urban figure of 29.9 per cent in Delhi

High diarrhea prevalence can be directly attributed to the absence of proper water supply and sanitation facilities in the urban slums of Delhi. Majority of the urban poor areas, such as Shahdara North, do not have sanitation and drainage facilities on account of being unauthorized. Preventive measures focusing on improvement of sanitation and drainage in urban slums and availability of safe drinking water are urgently needed in the slum areas of Delhi. It is also important to increase awareness

8. Gordon.B. et al, 2004. Inheriting the World: The Atlas of Children's Health and the Environment. Geneva: World Health Organization

among mothers and communities about the causes, prevention and treatment of diarrhea.

Practices During Diarrhea

Oral Rehydration Therapy (ORT), a simple, cost-effective treatment given at home using either packets of Oral Rehydration Salts (ORS) or a simple home-made solution of sugar, salt and water, has contributed significantly to reduce child mortality due to dehydration caused by diarrhea⁹. The level of knowledge about treatment of diarrhea by using ORS is low (52.5%) among the urban poor in comparison to the urban average (75.4%)

Fig7: Knowledge about treatment during diarrhea by Economic Groups

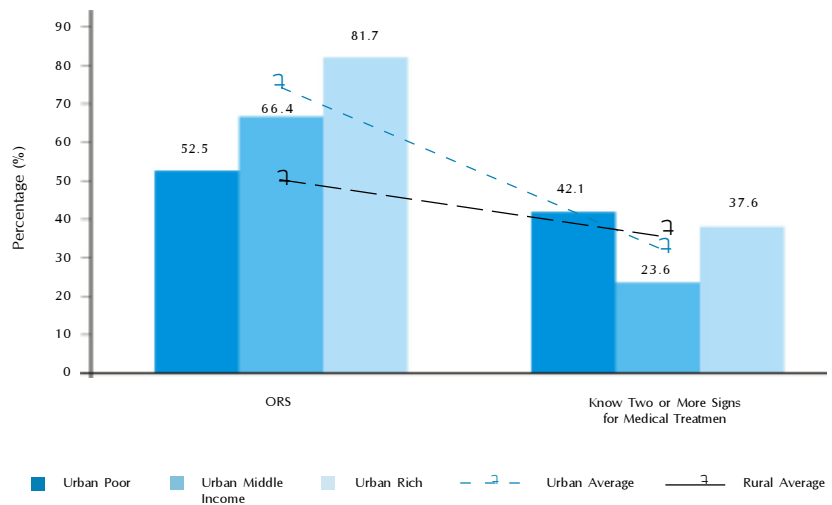
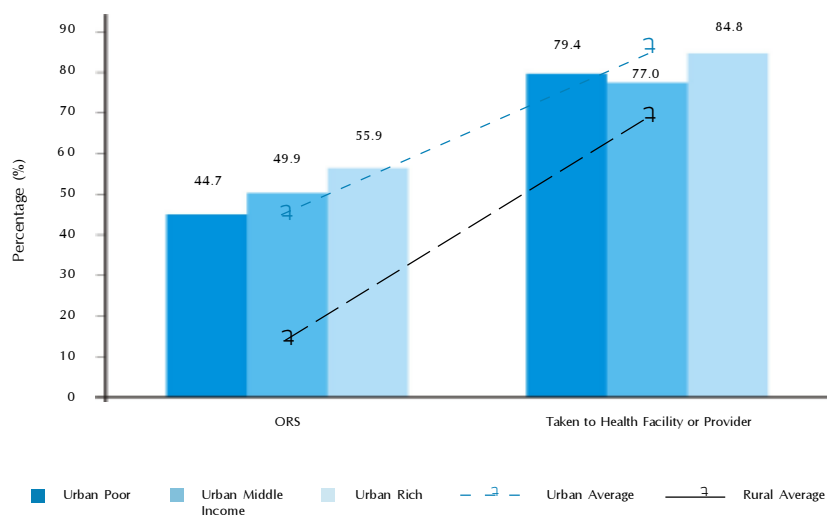


Fig 8: Treatment during Diarrhoea by Economic Groups



9. Victora CG, Bryce J, Fontaine O, Monasch R. Reducing Deaths from Diarrhea through Oral Rehydration Therapy. Bull WHO 2000; 78: 1246-1255.

(Fig 7). The overall use of ORS during diarrhea is also much lower amongst urban poor at 44.7% (Fig 8).

Use of mass media, especially electronic media, has been seen as an effective strategy to step up the awareness and use of ORS among mothers in urban areas¹⁰. One of the factors affecting the use of ORS is its availability. The health programs should tie up with community based programs like SJSRY and ICDS to improve access to ORS.

Acute Respiratory Infections

Acute respiratory infections—primarily pneumonia—are a major cause of illness and mortality among children throughout the world. In developing countries, an estimated 4.1 million children under age five die from acute respiratory infections (ARI) every year¹¹. In India, as in many other countries, ARI is the leading cause of childhood deaths¹². It is estimated that 60 percent of ARI deaths can be prevented by seeking health care immediately on developing signs of ARI and by selective use of antibiotics.

ARI assumes more significance in an urban slum setting where overcrowding and air pollution (both indoor and outdoor) are very common. The prevalence of ARI among urban poor children of Delhi was 15.8%.

Policy Provision and Program Implications

A scheme to provide basic minimum civic amenities in all the JJ clusters was started during the Seventh Plan Period (1985-90)¹³. In some of the JJ clusters, in-situ upgradation was also taken up. In addition, different other departments/agencies are also implementing schemes for environmental improvement and sanitation in JJ clusters, construction of Pay and Use *Jansuvidha* complex, implementation of National Slum Development Program and provision of basic services. A total outlay of Rs. 7243 lakhs has been set aside in 2004-05 for the implementation of different plan schemes having substantial components for water supply, sanitation and health facilities in JJ clusters¹³. Additionally, each assembly constituency has been allocated Rs. 2 crore for various developmental works which are carried out on the specific requirement of each area on the recommendation of the concerned MLA.

Beginning with need assessment and appropriate targeting and prioritizing, if the government schemes are duly implemented, a significant improvement can be registered in the health scenario of the urban poor. The following pointers have critical program implications:

Environmental conditions and hygiene behaviours in slums need to be improved to address high childhood morbidity

Distribution and counselling on appropriate use of ORS by private practitioners will improve its availability and use.

10. Rao et al, Knowledge and Use of Oral Rehydration Therapy for childhood diarrhea in India: Effects of Exposure to Mass Media, NFHS Subject reports, Number 10, November 1998
11. WHO (World Health Organization). 1995. *The World Health Report 1995: Bridging the gaps*. Geneva: World Health Organization.
12. Murray, C. J. L., and A. D. Lopez, eds. 1996. *The Global burden of Disease*. Cambridge, Massachusetts: Harvard University Press.
13. <http://delhiplanning.nic.in/Write-up/2002-03/document02-03.htm> Accessed on June 8, 2005

Capable Community based Organizations can help in promoting positive health behaviours.

- n Resources of the Sub-Mission on Basic Services of the JNNURM and the SJSRY and other schemes should be utilized for the construction of community toilets for the urban poor and slum dwellers. This will improve environmental hygiene and decrease diarrhea.
- n There is a clear need for the urban health improvement program to build functional linkages with the sanitation program and actively advocate for augmenting sanitation services.
- n There is a need to focus on hygiene promotion at the household level in the absence of sanitary facilities. This is of particular significance for diarrhea prevention in slum environment.
- n The capacity of community level workers for early identification and prompt treatment or referral for diarrhea and ARI should be enhanced. The link worker proposed in the GOI guidelines for the urban slum health programming may perform this role with appropriate training and pictorial communication tools.
- n Community Based Organizations could serve as depot holders for ORS to improve access for diarrhea affected children in slums.
- n Adverse economic conditions and lack of social support networks results in women taking infants and children to their work place which exposes them to health hazards. There is also a need to expand day care services for children of poor working women.

KEY MESSAGES

- Outbreaks of vaccine preventable diseases are more common in slum settings owing to high population density and continuous influx of a new pool of infective agents.
- Only 25 % of the urban poor children in Delhi are completely immunized by the age of one year.
- Strengthened outreach and promoting use of fixed facilities for immunization services holds the key to reach the urban poor children.
- Community based organizations in urban slums can become depot holders for ORS, nutritional supplements and should be trained in effective counseling.
- The capacity of community level workers in slums for early identification and prompt treatment or referral for diarrhea and ARI should be enhanced.
- Slum and JJ Wing, MCD Delhi and Department of Urban Development, GoNCTD, must be effectively involved in the promotional efforts keeping in mind their large presence in the slums in the form of CDS and NHGs

3.5 Nutritional Status of Women and Children

Nutritional status is a major determinant of the health and well being of children. Malnutrition among children is often caused by the synergistic effects of inadequate or improper food intake, repeated episodes of parasitic infections and other childhood diseases such as diarrhea, and improper care during illness^{14,15}. Malnutrition is an important factor contributing to high morbidity and mortality among children^{15,16}. Poor nutritional status of pregnant women is manifested in low birth weight of new borns. Nutritional status of women and girls is compromised by unequal access to food, heavy work demands and special nutritional needs (such as for iron). Females are particularly susceptible to illness, particularly anemia. Anemia among women is an important cause of maternal and perinatal mortality by contributing to increased risk of premature delivery and low birth weight¹⁷.

Under-nutrition is more common in children of mothers who are malnourished. State of nutrition of urban poor children in Delhi is as follows:

- Percentage of urban poor children under 3 years who are underweight (Weight for age below -2 SD) is 43.4 as compared to 23.8 in urban children of urban high income groups.
- Percentage of urban poor children under 3 years who are stunted (Height for age below -2 SD) is 47.3 as compared to 28.8 in urban children of high income groups

Infant Feeding practices

Appropriate infant feeding practices have significant beneficial effects on both mothers and children. Early and exclusive breastfeeding up to 6 months of age improves nutritional status, immunity and provides warmth resulting in better chances of survival and growth of child. Mothers are benefited due to lactational amenorrhea (LAM) or contraceptive effect of breast feeding enabling longer birth interval, reduced risk of ovarian cancer and emotional bonding with the child. Timely introduction of calorie rich complementary foods in an infant's diet has a bearing on his nutritional status allowing normal growth and development. Recent evidence documents breastfeeding and complementary feeding as the most valuable interventions for improving child survival¹⁸. Infant feeding practices among the urban poor in Delhi are as follows:

- Only one out of four urban poor neonates is breastfed within one hour of birth (Fig 9).

Malnutrition among urban poor children is a contributing factor to high morbidity and mortality.

Malnutrition among urban poor children in Delhi is twice that among the urban rich.

14. Pelletier DL, Frongillo EA Jr, Schroeder DB, Habicht JP. The effects of malnutrition on child mortality in developing countries. *Bull WHO* 1995; 73 : 443-448.
15. Ruzicka L T, Kane P. Nutrition and child survival in South Asia. In K. Srinivasan and S. Mukerji, (eds.) *Dynamics of Population and Family Welfare*, Bombay: Himalaya Publishing House, 1985.
16. Briend A., Wojtyniak W, Rowland MGM. Breast feeding, nutritional status, and child survival in rural Bangladesh. *BMJ* 1988; 296: 879-882.
17. Seshadri, Subadra. 1997. Nutritional Anaemia in South Asia. In Stuart Gillespie (ed.), *Malnutrition in South Asia : A Regional Profile*. Katmandu : Regional Office for South Asia : UNICEF.
18. Jones et al. How many child deaths we can prevent this year? *Lancet* 2003; 362: 65-71.

- n Majority (68%) of urban poor children do not receive complementary foods by 7-9 months of age (Fig 10).

Fig 9: Breast feeding practices by Economic Groups

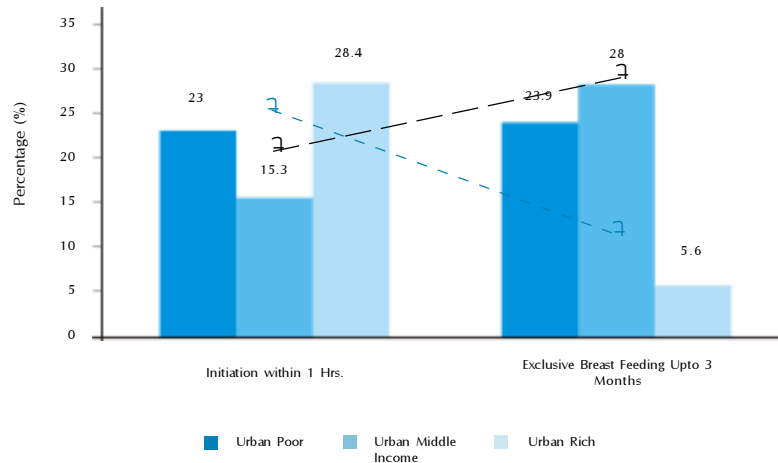
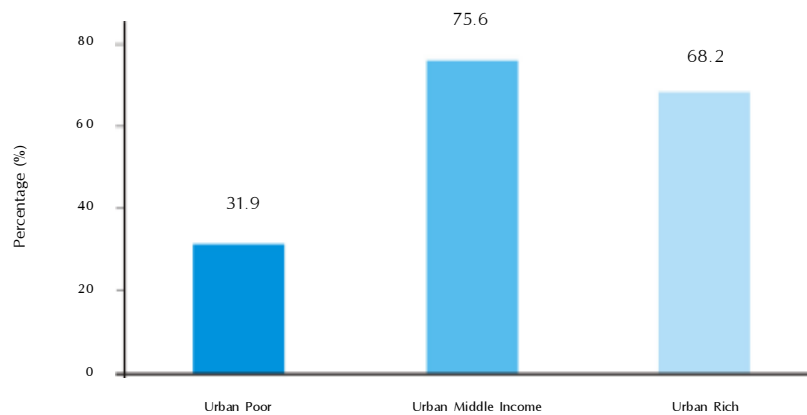


Fig 10: Percentage of Children who Receive Complementary Food By 7 - 9 Months by Economic Groups



Breastfeeding practices among the urban poor are dismal.

Policy Provision and Program Implications

As described earlier, under the ICDS scheme, 28 projects are functional in Delhi covering children under 6 years of age as well as pregnant and nursing mothers who are economically deprived. There is need to improve coverage of ICDS in urban slums and improve convergence of health improvement efforts with ICDS to achieve greater impact.

Principle etiological factors for the causation of Protein Energy Malnutrition (PEM) in children between 6-12 months are non feeding of colostrum, lack of exclusive breastfeeding, late introduction of semi-solid and solid foods, dilution of top milk and faulty weaning practices¹⁹. This calls for developing nutritional and health education messages and delivering them

19. Aneja B et. al. Etiological Factors of Malnutrition Among Infants in Two Urban Slums of Delhi, Indian Pediatr 2001; 38:160-165

through existing infrastructure of MCH functionaries like ANMs and AWWs for prevention of under nutrition. For community based management, the peripheral MCH functionaries should be supported by electronic and mass media to play an important role in dissemination of correct messages on breastfeeding and weaning of young children.

Anemia among children

Anemia is a serious concern for young children because it can result in impaired cognitive performance, behavioral and motor development, coordination, language development as well as increased morbidity from infectious diseases²⁰. One of the most vulnerable groups for anemia is children between the ages of 6 to 24 months²¹. More than four out of five children (82.7%) in urban poor habitations of Delhi are suffering from anemia (Fig 11). This is caused by poor dietary intake of iron rich foods, delayed introduction of complementary feeds, improper weanings and reliance on milk. Parasitic infections are also found to be contributory role in the high levels of anemia among slum children.

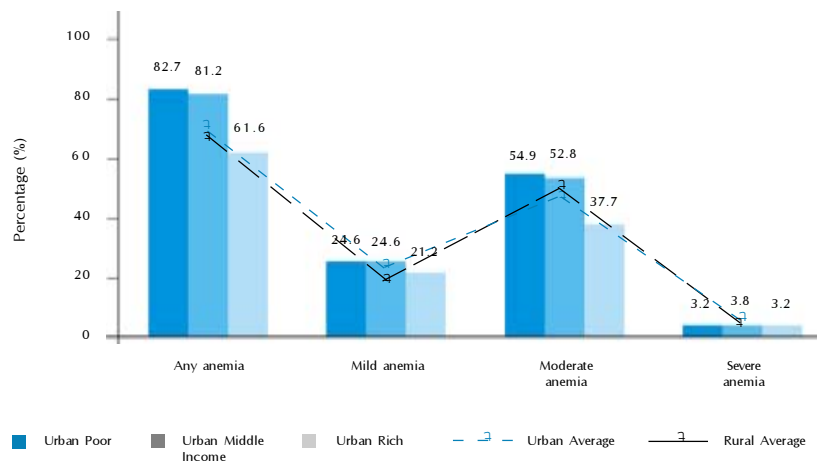


Fig 11: Prevalence of Anemia among Children by Economic Groups

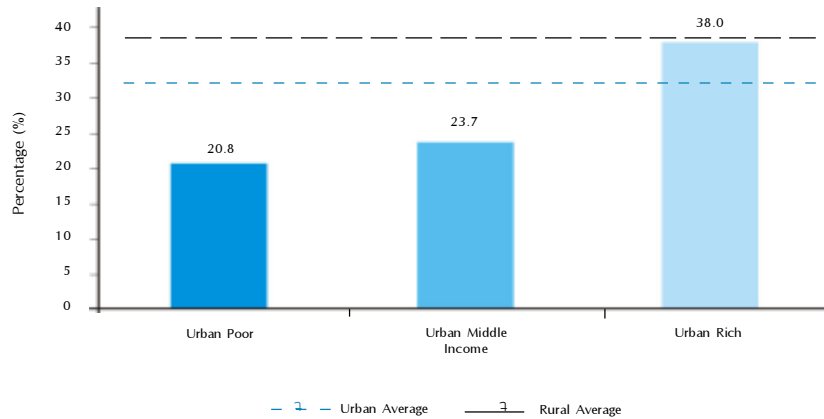
Vitamin A supplementation

Vitamin A deficiency, which is one of the most common nutritional deficiency disorders in the world, is associated with night blindness and compromised immune capacity. Diet surveys have shown that in India intake of Vitamin A rich food is significantly lower than the recommended daily allowance. Vitamin A supplementation is the fastest and most cost-effective approach to improving the Vitamin A status of the population. Among the urban poor in Delhi, only 20.8 percent of children aged 12-35 months, had received at least one dose of vitamin A as against the

20. Seshadri S. Nutritional Anaemia in South Asia. In Stuart Gillespie (ed.), *Malnutrition in South Asia: A Regional Profile*. Katmandu: Regional Office for South Asia: UNICEF, 1997.
21. Stolzfuß, Rebecca J. and Michele L. Dreyfuss. *Guidelines for the Use of Iron Supplements to Prevent and Treat Iron Deficiency Anemia*. International Nutritional Anemia Consultative Group. Washington D C: International Life Sciences Institute Press, 1998.

urban average of 32.1 percent (Fig 12). Inefficiencies in the supply chain of Vitamin A is a key impediment in ensuring widespread reach and needs to be addressed on a priority basis.

Fig 12: Percentage of children (12-35 Months) who received atleast one dose of Vitamin A by Economic Groups

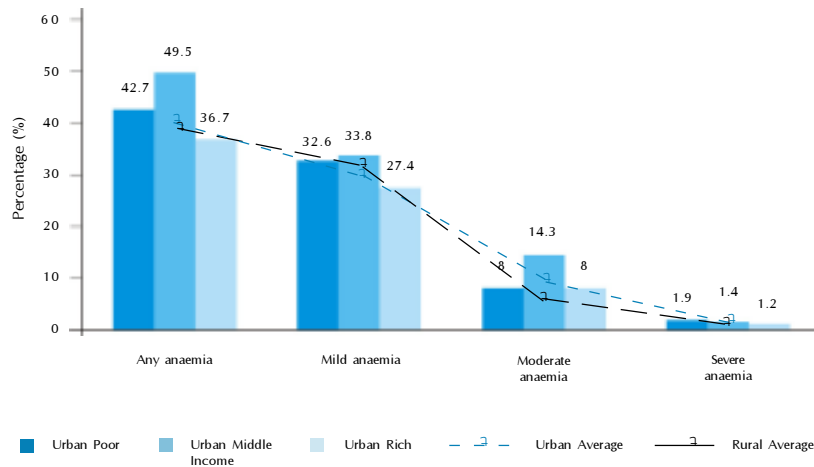


High prevalence of anemia contributes to high maternal morbidity and mortality.

Anemia among Women

The occurrence of anemia is high among the urban poor women (42.7 percent) (Fig 13). Anemia among pregnant women is significantly associated with low birth weight and limited reserves of iron at birth. Anemia has detrimental effects on the health of women and children and is an underlying cause of maternal and perinatal mortality.

Fig 13: Prevalence of Anemia among Women by Economic Groups



Policy provisions and program implications

The high prevalence of anemia underlines the need for (a) effective distribution and consumption of IFA tablets and dietary counseling, (b)

enhancing overall food intake (staple food being a very crucial source of iron especially among the poor), (c) increasing consumption of iron rich foods and (d) behavior change.

Regular ANC would ensure receipt along with reassuring counseling and follow up to enhance consumption of IFA. One of the methods could be to recruit and train link volunteers (*Basti Sevikas*) in slums to coordinate counseling sessions with mothers during ANC visits/camps by ANMs. They can also encourage early registration of pregnancy, explain advantages of IFA consumption and allay fears of side effects through women's group meetings. This will ensure that IFA is initiated early in pregnancy and give the women a longer time period to consume IFA. To support pregnant women in consuming IFA and overcoming side effects, it is important to help them see its significance for the health of the baby, provide suggestions to specifically address the perceived difficulty in consuming IFA. Where the women's groups are active, peer support can also encourage women to consume all IFA tablets and feel proud about it.

The high prevalence of anemia can be attributed to dietary factors such as limited intake of iron / folate rich foods or behavioral causes such as improper hygiene and consequent helminthic infections. Regular counseling is required especially during pregnancy to encourage and support appropriate nutritional practices. Though IFA consumption may provide immediate relief from symptoms and improve blood hemoglobin profile, sustained improvement in anemia status can be achieved only through nutritional and behavioral modifications. Adolescent girls are also prone to be anemic and need to be targeted for anemia prevention. IFA distribution for adolescent girls and promoting a iron rich diet through programs such as Kishori Shakti Yojana needs to be promoted in urban slums.

Promotion of optimal feeding practices including exclusive breastfeeding for six months, timely initiation of complementary feeds and good cooking and hygiene practices need to be undertaken particularly at the slum level through peer counseling and regular visits by trained CBOs or other slum level health volunteers. The coverage of ICDS should be expanded to the urban slums as many studies have pointed to the positive correlation between the existence of an *anganwadi* center and improved nutritional status²². The scope of schemes like the *Antyodaya Anna Yojana* which target the poorest of the households for distribution of subsidized rations should be enlarged and made more accessible to improve the nutrition status of the mother.

Improving coverage of ICDS in urban slums can improve nutritional status of women and children.

22 Agarwal, K.N. et al., 2000. Impact of Integrated Child Development Services (ICDS) on maternal nutrition and birth weight in rural Varanasi. *Indian Pediatrics*; 37: 1321-1327

KEY MESSAGES

- Nearly half of urban poor children of Delhi are malnourished.
- Malnutrition, low level of immunization and ineffective health services along with poverty form a vicious circle adversely affecting child and maternal survival.
- Nutrition and health education of caregivers and increased involvement of men in attending to children's health needs should be taken up earnestly in view of the low awareness about identification and management of major childhood illnesses and feeding practices.
- The high prevalence of anemia should be addressed by improving IFA distribution and better counseling for ensuring consumption of IFA tablets and better nutrition during pregnancy.
- The coverage of ICDS services in urban poor localities should be improved as there is a direct association between existence of ICDS centers and improved nutritional status.
- Community based organizations can become depot holders for IFA, nutritional supplements and should be trained in effective counseling.

3.6 Maternal Health

Pregnancy and childbirth are the leading causes of death, disease and disability among women of reproductive age. They account for at least 18% of the burden of disease in this age group – more than any other single health problem²³. Maternal health interventions in the form of antenatal care, skilled attendance during delivery and helping women prevent unwanted pregnancy are among the most cost-effective and life saving investments in public health.

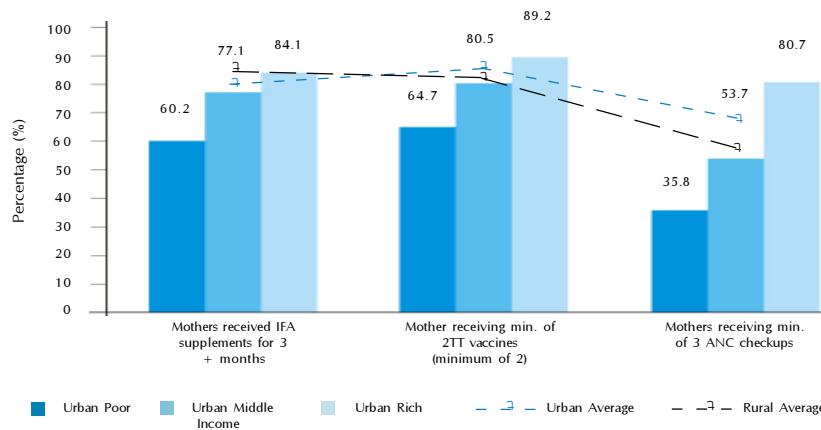


Fig 14: Antenatal care Received by Mothers During Pregnancy by Economic Groups

Only one in three women in urban slums received 3 or more antenatal checkups.

Antenatal care

Lack of antenatal care is an important risk factor for maternal deaths^{24,25}. Women having developed contacts with the health system in the antenatal period may lead to earlier decision making about the place of care and therefore lower mortality²⁶. Women's tetanus immunization provided in the antenatal service package contributes to lower neonatal mortality due to tetanus²⁷. Iron and folic acid supplementation in the antenatal care package has reduced the prevalence of anemia among pregnant women and thereby lower maternal and perinatal mortality²⁸.

It is important to provide pregnant women with at least three antenatal check ups, two doses of tetanus toxoid vaccine and iron and folic acid supplementation during pregnancy for at least three months.

Only about one-third (35.8%) of the mothers in urban poor households received the recommended three or more antenatal check ups as against the urban average of 69.3 percent (Fig 14). 64.7 percent urban poor mothers received two or more doses of TT vaccine and for 60.2 percent of births, they received iron and folic acid tablets for more than 3 months.

23. World Bank. 1993. World Development Report 1993: Investing in Health. Washington, DC: World Bank.
24. Bhatia. J.C. Levels and causes of maternal mortality in Southern India. Studies in Family Planning; 1993; 24 : 310-318.
25. Anandakshmy P.N. Demographic, socio-economic and medical factors affecting maternal mortality - an Indian experience. The Journal of Family Welfare 1993; 39 : 1-4.
26. Jejeebhoy, S.J. 1997. Maternal mortality and morbidity in India: Priorities for social science research. *Journal of Family Welfare*. 43: 31-52.
27. Luther, N.Y. 1998. Mother's Tetanus Immunization is associated Not Only with Lower Neonatal Mortality but Also with Lower Early-Childhood Mortality. NFHS Bulletin. No. 10. Mumbai : IIPS and Honolulu: East West Center.
28. International Institute for Population Sciences (IIPS) and ORC Macro. *National Family Health Survey (NFHS-2), 1998-99*: Mumbai : IIPS, 2000.

Program Implications

The low ANC coverage reflects gaps in the health delivery system such as lack of health service coverage in many slums, infrequent ANM visits and inadequate supervision of health workers. In Shahdra North, for example, lack of adequate staff at the health care centre has often been cited as a major reason of inadequate and infrequent visits for outreach activities. Besides, each ANM has a disproportionate work load in terms of the population to be covered.

Local RMPs who have significant presence in the community can be trained and provided incentives to provide antenatal care to women. Link workers, SHGs and CBOs can facilitate delivery of health services including ANC by providing information and increasing demand, serving as depot holders and developing linkages between the community and health providers. Stree Shakti Camps have shown to be an effective strategy to take health care services closer to vulnerable communities. These camps should be expanded to cover all slums including temporary and informal settlements.

Care during delivery

Seven out of ten deliveries among urban poor take place at home.

Skilled care during childbirth is important because millions of women and newborns develop serious and hard to predict complications during or immediately after delivery. Skilled attendants—health professionals such as doctors or midwives possessing requisite midwifery skills—can recognize these complications timely, and either treat or refer them to health centers or hospitals immediately if more advanced care is needed. As many as 8% of all women might experience a potentially life threatening morbidity during delivery and 11% during the post partum period²⁹. Once a major obstetric complication develops, a trained traditional birth attendant or nurse can do little at home because surgical intervention is often necessary.

The practices among the urban poor in Delhi for delivery are as follows:

- n Among the urban poor, domiciliary delivery is still the norm with more than two-thirds (69%) of deliveries taking place at home.
- n The deliveries attended by a health professional at home or at a health facility among the urban poor households is only 29.1 percent in comparison to the urban average of 68.2 percent (Fig 15).

Program Implications

- a) The Janani Suraksha Yojana has potential to increase institutional deliveries. It is essential that the slum community be made of such

29. Bhatia, JC and Clealand J. 1995. Self reported symptoms of Gynecological morbidity and their treatment in South India. *Studies in Family Planning*, 26 (4) : 203-16

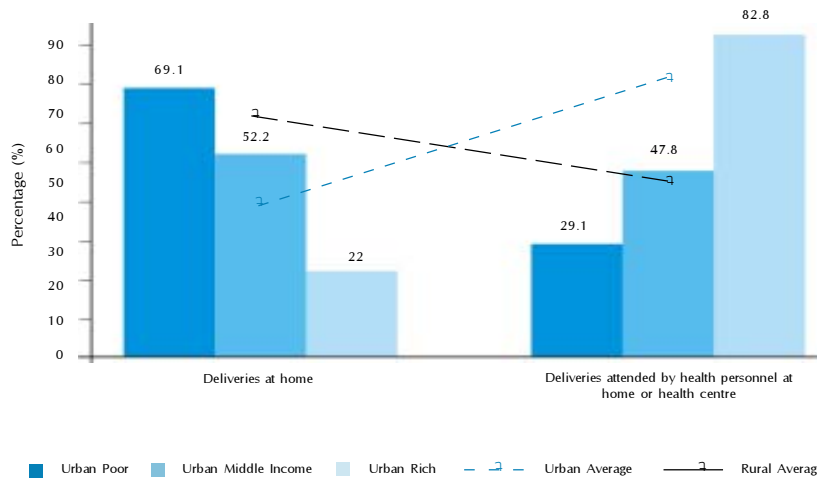


Fig 15: Place and Assistance During Delivery by Economic Groups

provisions and the process of payment to beneficiaries be made simple so that mothers develop confidence in the scheme and go in for institutional deliveries.

- b) Though promoting institutional deliveries is the ideal option for ensuring safe delivery, the lack of public health facilities is a constraint. Home deliveries are likely to continue for a long time and a comprehensive training package for the “*dais*” therefore needs to be formulated and implemented. The curriculum for *dai* training should cover i) skill and practice of clean delivery, ii) early identification of sickness and prompt referral and iii) promoting early initiation of breastfeeding and provision of warmth to the newborn. Follow up is also necessary to ensure practice of training inputs.
- c) It is also observed that a large number of slum women return to their native villages for delivery. In order to ensure that these women adhere to safe delivery practices, specific communication strategies should target such temporary migrants, supplemented by attractive pictorial cards which depict recommended behaviors and which could also be used for referral at their native villages.
- d) There is a continued influx of migrants into urban areas owing to better economic opportunities in cities. RCH services should be better planned such that each ANM and MPW has a defined catchment area and is mandated through official circulars to (i) add new migrants into the program as they come in and provide a report of new migrants every quarter (ii) conduct special counseling sessions for new migrants to inform them about available services at UHCs and providing them a Family Health Card.

Providing services to the rapidly mobile slum population is a challenge for health providers.

Schemes such as the Janani Suraksha Yojana have the potential to bring slum population closer to health services.

KEY MESSAGES

- Only about a third (35.8%) of the urban poor mothers receive the recommended three or more ante natal check ups. Low ANC coverage reflects a gap in the health delivery system
- Since nearly two-thirds (69%) of the deliveries are domiciliary, there is an urgent need to identify and train all TBAs and other women conducting delivery in slum settlements
- Large scale migration and rapid mobility of population needs to be factored in while planning the delivery of health services

3.7 Fertility and Family Planning

High population growth rate in urban areas is not only because of rapid in-migration but also because of large families and the limited use of family planning methods, especially among the urban poor. Addressing the high fertility and low use of family planning methods is not only important from the view point of reducing the rapid growth of population but also reducing high parity and closely spaced births which have a significant bearing on maternal and child health. The Total Fertility Rate¹ (TFR) is 4.8 among urban poor which is much higher in comparison to the urban average of 2.4 in Delhi (Fig 16). Similarly mean number of children ever born to ever married women aged 40-49 years among urban poor is 5.0 as against urban average of 3.6 in Delhi.

TFR among the urban poor in Delhi is 4.8 - twice that of the urban average.

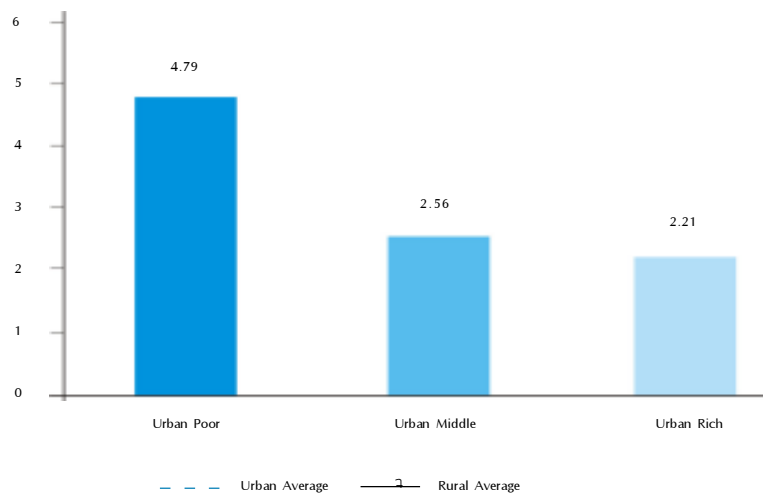


Fig 16: Total Fertility Rate by Economic groups

Current use of contraception

Though knowledge about temporary methods of contraception is good (more than 90%) (Fig 17), only about one-third (34.8%) of urban poor women were actually practicing any modern contraceptive method in comparison to urban average of 64 percent.

Use of spacing methods (Pill/IUD/Condoms) is extremely low (8.8%) among the urban poor (Fig 18).

Spacing methods need to be promoted to address closely spaced births and thereby improve maternal and child health.

¹ Total Fertility Rate is average number of children that will be born to a woman if she experiences the current fertility rates throughout her reproductive ages

Fig 17: Knowledge of methods of Contraception by economic groups

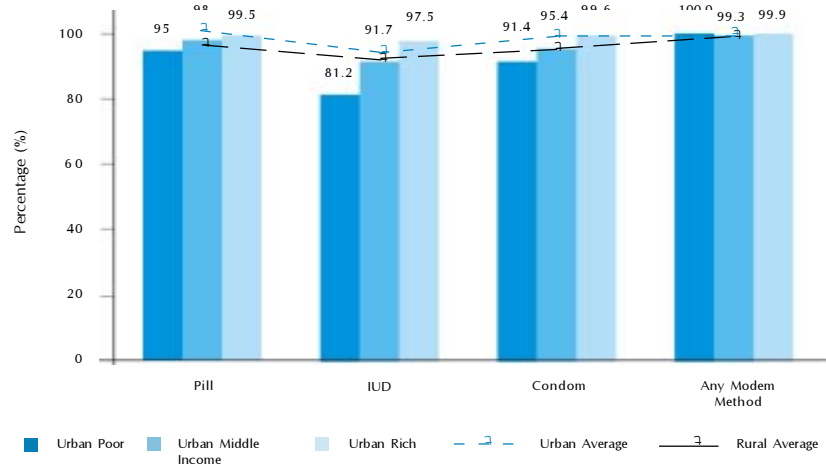
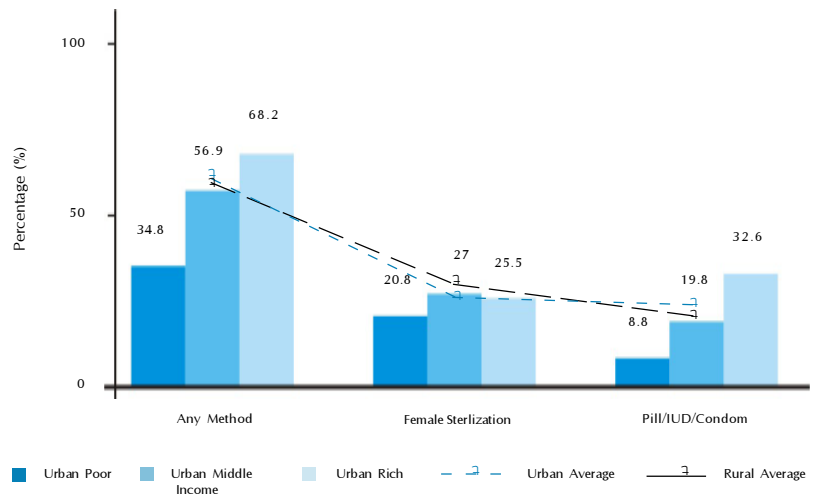


Fig 18: Current Use of Contraceptives by Economic Groups



Program Implications

Programs need to target men in addition to targeting women to address low usage of family planning methods.

High TFR and closely spaced births (inter pregnancy interval of less than 24 months) among the urban poor raises pressing need for promotion of use of spacing methods. A study carried out in an urban slum of Delhi has revealed the practice of induced abortions especially among working women highlighting the high unmet need of family planning services³⁰.

- n It is essential to involve men in IEC activities related to family planning as often the men take most of the important decisions related to family size and the use of family planning. Studies have shown that men's lack of reproductive health knowledge can have dangerous implications for women, who often must refer to male family members in matters of health. Ensuring that men understand the basic facts about fertility and reproductive health, as well as the importance of appropriate care is vital to women's health and well-being.

30. A. Khokhar, N. Gulati. Profile of Induced Abortions in Women from an Urban Slum of Delhi. Indian J Comm Medicine 2003; 25: 177-180.

- n Strengthening community based organizations like SHGs and training of link volunteers can strengthen the community-service provider linkages. Such groups can complement the efforts of health workers in generating awareness about health and family welfare issues and counseling for family planning while also acting as depot holders for temporary methods. They can also increase accountability of the government health services. Studies have demonstrated that such groups have the additional benefit of being able to negotiate for better and more regular health services such as visits by ANMs. In the Calcutta Slum Improvement Project, honorary female health workers played a significant role in bringing about health improvements of the community due to their accessibility, low cost of health care, home visits, and positive attitude.
- n Adolescence is a crucial period of life when attitudes towards sexuality, reproductive health and contraceptive methods are formed. This is also a period when ignorance on these issues is common and huge information needs exist. Given the fact that the age structure of the urban poor population comprises nearly half of population under the age of 15, special schemes to prepare them for parenthood is the need of the hour. Strengthening of RCH related education components in the School Health scheme of Delhi should be made a priority area of action. There is a need of developing context specific and community sensitive family planning programs. Religious sensitivities along with poor socio-economic status of the Muslim communities strongly suggest the need to evolve customized programs in consultation with religious and opinion leaders to be effective.
- n Linking education programs such as *Sarva Shiksha Abhiyans* which have components of adult education with messages on family planning can improve knowledge and improve attitudes and usage of contraception.
- n Given the presence of a mobile floating population in the construction industry, contractors or *thekedaars* can also be a possible medium of intervention for involving men in promotion of family planning practices.

Link volunteers and community based organizations can help in increasing knowledge, demand and use of family planning methods.

KEY MESSAGES

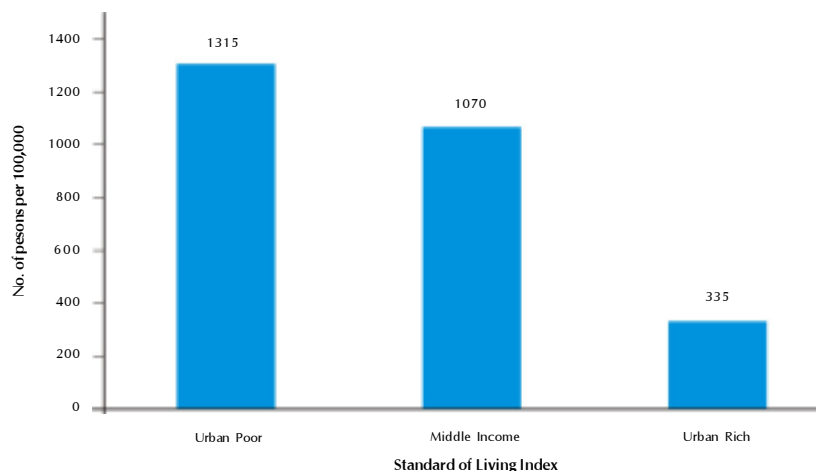
- The high TFR of 4.8 among the urban poor emphasizes the need for increasing age at marriage and the use of family planning methods.
- The use of sterilization is low (21%) and there is a high unmet need for limiting methods among the urban poor in Delhi. This needs to be addressed by improving information about the methods and access to these services.
- The use of spacing methods is also very low (9%). The increased use of spacing methods will result in longer birth intervals and thereby better reproductive health and improved child survival.
- The use of community based distribution and social marketing channels can improve the usage of spacing methods.
- As men are the primary decision makers, it is essential to target messages specifically to them.

3.8 Tuberculosis

Slums are especially vulnerable to communicable and vector borne diseases as they live in unhealthy locations such as near drains, overcrowded rooms, lack basic sanitation and water supply, exposed to indoor smoke and water borne pathogens³¹. All this is exacerbated by malnutrition and lack of access to health services.

India contributes about one-fifth of the global burden of tuberculosis. Every year, there are approximately 18 lakh cases in the country³¹. The usual victims of TB are migrant labourers, slum dwellers, residents of backward areas and tribal pockets. Known as the disease of the poor, TB often appears where malnutrition, shanty housing and over crowding are common.

According to NFHS-II, the overall prevalence of tuberculosis in India is 544 per 1,00,000 general population. The urban poor have a significantly higher prevalence of tuberculosis than the rest of the population. The prevalence of TB among urban poor in Delhi is 1315 per 100,000 persons more than double that of urban average (Figure 19). There is also wide variation in the disease occurrence among poor and rich with the former having four times the prevalence than the latter.



Poor environmental conditions and overcrowding in slums result in high prevalence of tuberculosis in Delhi slums.

Fig 19: Prevalence of Tuberculosis in Urban Delhi by Economic Groups

The aggregate performance figures of the RNTCP in Delhi indicate good performance in terms of detection of tuberculosis and its treatment. The new smear positive case detection rate of Delhi as a whole is 75 per cent and the cure rate of new smear positive patients is 86 per cent. While the RNTCP can be said to be performing relatively well in Delhi, given the lack of health facilities in slums communities these indicators are likely to be poor among vulnerable slum communities many of which are not counted in the slum lists.

31. Director General of Health Services. 2007. TB India 2007. RNTCP Status Report. New Delhi : Ministry of Health and Family Welfare.

Policy and program implications

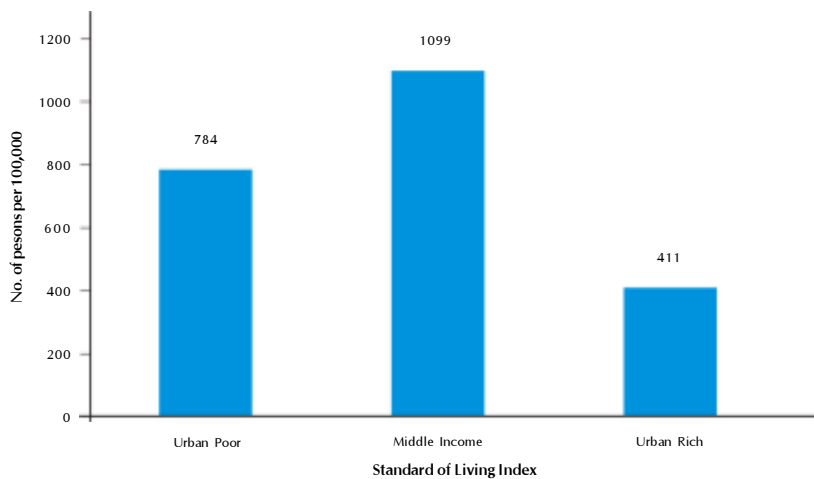
- n Emphasis should be laid upon identifying DOTS providers in every slum along with training of Basti Sevikas and other slum based health volunteers to follow up on patients receiving treatment under DOTS.
- n Community members should be mobilized to serve as health educators and motivators for further enhancing the reach of DOTS among the urban poor.
- n Early adopters of regular DOTS treatment should be encouraged to enlist their neighbours, family and acquaintances who suffer from symptoms suggestive of Tuberculosis.
- n Considering the presence of a large number of local private health care providers in the slums, they can be earmarked as DOTS providers with appropriate checks and balances.

Outbreaks of dengue and chikungunya are becoming increasingly common in Delhi.

3.9 Malaria and Vector borne diseases

Vector borne diseases like Dengue, Malaria and Chikungunya are highly prevalent in Delhi. The poor environmental conditions in slums of Delhi are the main causes of the continuous threat of outbreak of these diseases. Stagnant water and even stored water encourage the breeding of mosquitoes resulting in the spread of malaria and other vector borne diseases. Slums bear the brunt of the high prevalence of these diseases. The NFHS II data highlights the prevalence of malaria among urban poor as 784 per 100,000 persons which is almost twice that of urban rich in Delhi (Figure 20). In 2006, 2950 cases of dengue with 65 deaths were reported from Delhi³².

Fig 20: Prevalence of Malaria in Urban Delhi by Economic Groups



32. WHO and Government of India, 2006 : Report of the Brainstorming Session on Vector Borne Diseases. 9 November 2006. New Delhi : WHO and Gov.

Policy and Program Implications

- n Combating malaria and other vector borne diseases in Delhi requires convergence among government departments like health, urban development and JJ wing along with the involvement of civil society.
- n Slum level health volunteers may be mobilized to assist in the collection of blood slides and give initial treatment while members of the community could come together to set up Fever Treatment Depots (FTDs) within the slum itself.
- n Community based organizations or socially committed individuals could be trained to promote awareness about measures for prevention of malaria, dengue and chikungunya such as preventing stagnant water and spraying of insecticides.
- n Larvivorous fish like Gambusia can be used in ponds and other water bodies to prevent breeding of mosquitoes and chemical larvicides like Abate should be used in tanks and other places of water storage.

Lack of safe water and toilet facilities contributes to high disease burden among the urban poor.

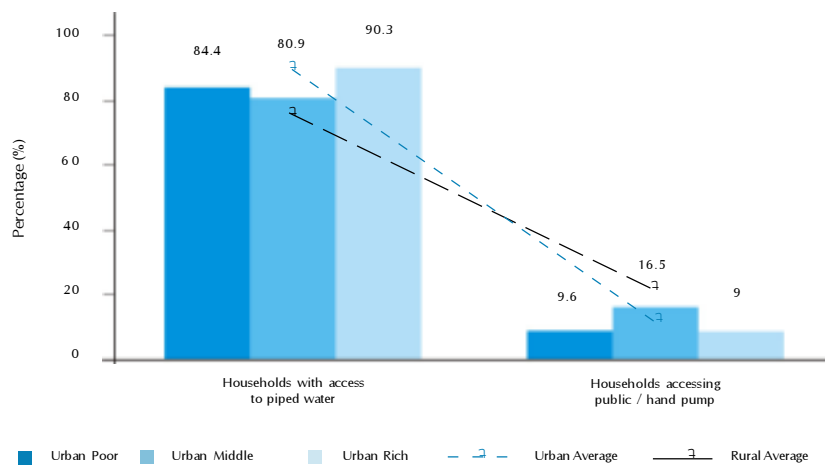
3.10 Environmental Health Conditions

Access to safe water and sanitary means of excreta disposal are basic human rights and form an indispensable component of primary health care. Provision of adequate sanitation services and safe water supply represents an effective health intervention that reduces the mortality caused by diarrheal disease by an average of 65 per cent and related morbidity by 26%³³. Inadequate sanitation, hygiene and water supply result not only in more sickness and death but also in higher health costs, lower worker productivity and lower school enrollment and retention rates. In a survey of public perception of services in Delhi conducted in 2005, the dissatisfaction levels with regard to water and sanitation services were highest in slum clusters, resettlement colonies and unauthorized colonies³⁴.

Access to water

Safe drinking water and improved sanitation play a major role in the overall well being of the people with a significant bearing on the IMR, death rate, longevity and productivity. The poor in urban areas bear a disproportionately higher burden of the non-availability of water as well as its poor quality. Over 15 percent of the urban poor households have no access to piped water. Nearly 10% of the urban poor and 16% of medium income households derive their drinking water from public taps/hand pumps (Fig 21).

Fig 21: Access to Water Supply by Economic Groups

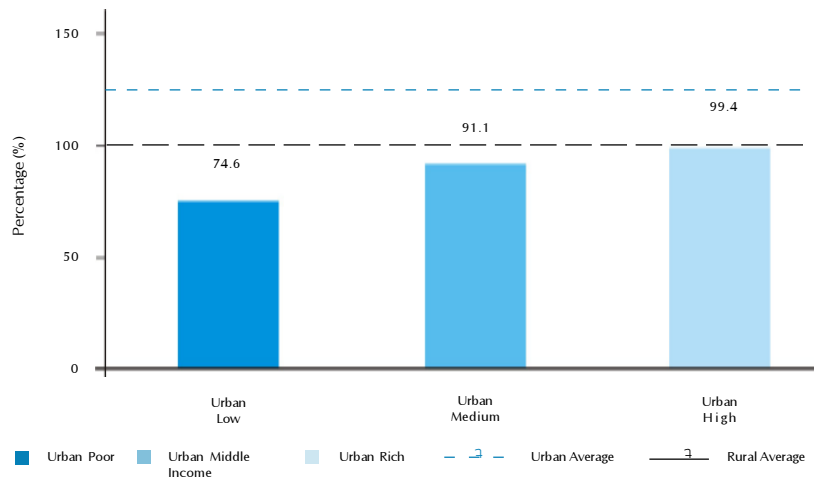


33. WHO and UNICEF, 2000: *Global Water Supply and Sanitation Assessment 2000 Report*. WHO and UNICEF.

34. GoNCT. 2006. *Delhi Human Development Report 2006*. New Delhi: Oxford University Press.

Sanitation facility

Around three-fourths of the urban poor low households use a private sanitary facility (Flush/pit toilet) for the disposal of excreta as compared to the urban average of 96.3 percent. One-fourth of the urban low income households do not have access to toilet facilities. (Fig 22).



One-fourth of urban poor households in Delhi do not have access to toilets.

Fig 22: Households Having Access to Private Sanitation Facility by Economic Groups

Policy Provisions and Program Implications

As noted earlier, several schemes to provide basic minimum civic amenities in all the JJ clusters were started during the Seventh Plan Period (1985-90). In some of the JJ clusters in-situ upgradation was also taken up. A total outlay of Rs. 7243 lakhs had been set aside in 2004-05 for the implementation of different schemes related to water supply, sanitation and health facilities for JJ clusters including schemes such as NSDP³⁵. Besides, the Rs. 2 crore fund available to the MLAs for various developmental works can also be utilized for the purpose.

The *Valmiki Ambedkar Awas Yojana* (VAMBAY), launched in December 2001 facilitates the construction and upgradation of dwelling units for the slum dwellers. *Nirmal Bharat Abhiyan*, a component of the scheme provides for construction of community toilets. As referred to earlier the Trans Yamuna Area Development Board, looking after infrastructure development for the trans Yamuna areas of Delhi, is also an important body for improvement of environmental health conditions. During the period 1994-95 to 2003-04, an amount of Rs.683.29 crore has been released to various agencies like MCD, DJB, DVB, I&F, PWD, etc. and an expenditure of Rs.605.73 crore has been incurred by these agencies for the civic infrastructure in the area³⁶.

The Sub-Mission on basic services needs to be effectively implemented to improve living conditions in slums.

35. <http://delhiplanning.nic.in/Write-up/2004-05/Volume0405-III.htm> Accessed on August 31, 2005

36. Economic Survey of Delhi, GoNCTD, 2003-04

With the emergence of various types of settlements, particularly unplanned settlements, the urban scenario in Delhi has become a very typical and difficult subject for management by concerned agencies. Herculean efforts are needed to improve the over all water and sanitation situation in the urban slum areas.

KEY MESSAGES

- Improved environmental health conditions can result in significant improvements in health conditions
- One fourth of the urban poor in Delhi have access to private sanitary facility
- Funds available under various projects such as NSDP and VAMBAY needs to be effectively utilized to provide water supply and sanitation services to the urban poor

Subsequent to the second round of the National Family Health Survey, other surveys have been conducted to assess the RCH conditions in Delhi. Prominent among them have been the second round of the District Level Household Survey (DLHS) conducted during 2002-04 by the Ministry of Family Welfare, Government of India. These surveys also reveal the dismal state of health of the urban poor in Delhi and the stark differences which exist between the urban poor and the rest of the urban population.

The reanalyzed data of the DLHS for Delhi is presented in Annex 3 with the objective of presenting more recent data on health of the urban poor in Delhi. The findings are very similar to that observed by the second round of the NFHS conducted approximately five years preceding this survey. The health of the urban poor in Delhi continues to be dismal and disparities continue to exist. The methodologies adopted by the NFHS and DLHS have some differences which should be kept in mind while making comparisons between the findings of the two surveys.

CONCLUSION

Conclusion

Large Urban Poor Population: Unmet RCH Needs

Growing urban poverty- The metropolis of Delhi was home to 13.78 million persons as per the 2001 census. As of 2007, the population of Delhi is estimated to be around 16.5 crores and is estimated to reach 27.9 crores by 2026. The population growth of Delhi was 46.31 per cent during the decade 1991-2001 which is double of the national growth rate. The exponential growth in population is driven mainly by huge influx of migrants to the city (about 2 lakh per year) most of whom settle down in urban poor habitations. The census estimated that 18.7 per cent of the population of Delhi resides in slums. Further, about half (52 per cent) of Delhi's population resides in urban poor habitations like resettlement and unauthorized colonies including slums.

Poor Health Conditions- Commonly reported averages of the health status of the urban population mask the worrying health conditions of the urban poor. This report which disaggregates data by economic groups indicates the poor state of health of the urban poor in Delhi. The infant mortality for the poor is more than double at 94.4 as compared to average figure of 46 for urban Delhi. Similarly, under-five mortality rate is 135.5 compared to the urban average of 58.4. Only about one-fourth of the children are completely immunized by the age of one year amongst the urban poor population. Nearly 69% of the deliveries take place at home without a trained health professional which may risk the life of the mother and new born child.

Weak Policy Implementation- Over the years, a large number of policies and programs have been initiated with the objective of improving the conditions of the urban poor. These include policies aimed at improvement of housing and basic services, environmental improvement in urban slums, generation of employment and community empowerment focusing on women, improvement of the status of women and children and ensuring food security. However, this has not been translated into effective programs which could have a significant impact on the health of the urban poor.

Multiplicity of Service Provides and Weak Coordination and Convergence Health Services to the urban poor in Delhi are provided by a multitude of departments such as the Departments of Health, Social Welfare, Slum Development from different authorities such as MCD and GoNCTD. There is weak coordination between these agencies. There is a lack of well defined catchment areas of the health facilities, instances of overlap in the

catchment areas of two health facilities managed by different authorities and several health facilities operate from the same premises. Thus, there is considerable scope for synergy and the complementary use of skills and resources of the various departments for improving the health and well being of the urban poor in Delhi.

Inadequate primary health infrastructure- The urban poor in Delhi are underserved by primary health care facilities. The rapid growth of population has also overburdened the existing health facilities rendering them ineffective to serve the needs of the urban poor. Some slum settlements are entirely uncovered by health services and the quality of services in others is seriously compromised. In urban poor habitations like Shahdara North, urban public health infrastructure on which the poor are most dependent caters only to 50% of the population in the area.

Poor Environmental Conditions- The health vulnerability of the slum dwellers is further accentuated by the poor environmental conditions. The situation analysis of slums in Shahdara (North), Delhi revealed that most of the slums are located next to drains, lack access to safe drinking water and toilet facilities exposing the residents to increased risk of contracting a host of diseases. Increasing coordination and convergence of departments-in-charge of water supply, sanitation and slum improvements with the health department is a pre-requisite for improving the health conditions of slum dwellers.

Options for Improving Health Care of the Urban Poor in Delhi

A multitude of factors like inadequate health services, lack of functional convergence among different departments and programs and inadequate capacity of urban local bodies result in poor health outcomes among the urban poor. In order to strengthen services and improve the health of the urban poor, the following measures are suggested:

Need to target the underserved

The situation analysis of Shahdara North discussed in Section 2 and several other studies have documented that there is a large number of unlisted slums, many of which remain outside the purview of basic services including health. Further, all slums of the city are not alike and there exist considerable differences in the health vulnerability of its residents. Disparities in health indicators across different slums exist owing to differing socio-economic, environmental and infrastructural conditions. It is essential to identify and plot all urban poor habitations and undertake

a vulnerability assessment of all such habitations in Delhi so that priority can be accorded to needy slums. Such a process has been initiated in two municipal zones (Shahdara North and Narela) of the city.

Mapping of Slums and other urban poor settlements for better planning

It is important to map all unauthorized colonies, JJ clusters and other urban poverty clusters at the District or Municipal Zone level. Such maps depicting location of slums and urban poor settlements, health facilities and providers and other stakeholders will enable comprehensive planning and robust monitoring.

Alignment of primary health facilities operated by different agencies

In Delhi, there are a multitude of agencies which manage health facilities. This results in duplication of services in some areas while most areas remain unserved. There is a need to align these different primary health facilities and allocating defined catchment areas to each facility. This ensures more accountable health care with a dedicated focus on the slums and the urban poor.

Enhance functional convergence of all stakeholders

As discussed in Section 2 of this report, there exist a range of government policies and programs aimed at improving the conditions in urban slums. There are various government departments dealing with issues like sanitation, water supply, ICDS, Stree Shakti Project, public distribution system, employment, women's empowerment, education and slum development with direct linkages to health status of the slum populace. Besides, there are a number of non government and private sector health providers where an RCH component can be built into or reinforced in their programs. There is thus a need to build linkages, coordinate and work towards convergence among the various government departments and other non-governmental agencies working for the urban poor. At the first place, there should be convergence of health services of the GoNCTD, MCD, NDMC and the Cantonment Board. Similarly, there needs to be convergence between different departments like health, ICDS, SJSRY, the sub-mission on basic services, Slum and JJ wing, Stree Shakti Project etc. A functional taskforce at state and district / zonal levels aimed at improving the health of the urban poor under the aegis of relevant government functionaries can be convened to bring all the stakeholders on a common platform and undertake review of all relevant programs and schemes regularly for optimal health outcomes for the urban poor.

Need to augment and strengthen urban health infrastructure and services

The lack of public health infrastructure makes it imperative that the private

sector which has a large presence in the health service delivery to the disadvantaged urban settlements, should be effectively utilized to improve the health conditions of the poor. It has been observed that partnerships with organizations having prior presence in slums result in improved and more cost effective health service delivery. Government's partnership with NGOs has the potential to scale up delivery of health services in slums.

Strengthen community networks and their linkages with health providers

Building on existing networks that have strong linkages with the community can be a useful strategy for improving coverage of health services. Strengthening community based organizations like SHGs is an effective mechanism to strengthen linkages between the community and the health system. Such groups can complement the efforts of health workers in generating awareness about health issues and counseling for family planning. They can also increase accountability of the government health services and ensure regularity of health services. The negotiating capacity of slum dwellers needs to be enhanced by promoting collective and organized efforts such as the *mahila mandals*, *mohalla samitis* and SHGs for socio-economic empowerment. An increased negotiation capacity of the community would also help generate pressure for optimal implementation and utilization of government schemes such as SJSRY and other schemes.

Promoting Community Managed Health Funds

Health funds managed by community based organizations should be promoted. These health funds would serve as a community risk pooling mechanism and ensure a ready source of money to utilize health care and reduce the burden of morbidities and mortality. CBOs if properly trained and supported can independently manage these funds as seen from examples such as SEWA and Urban Health program in Indore and Agra. These funds also encourage the saving habit in slum communities and prevent them from falling into a vicious cycle of informal debt.

Migratory trends need to be considered for planning RCH services

An important challenge in planning and delivering health services in urban slums is the rapid mobility of population. City landscapes change rapidly because of rapid immigration resulting in the creation of new slum and urban poor clusters. Government slum records should be updated on a regular basis and new slums should be included in the purview of health and other civic amenities. Migration makes the process of maintaining client lists and follow up by health workers complicated. Behavior promotion activities also get disrupted because of such movements. In such a scenario, steps to make the services reach the migrant population could

include (i) distribution of pictorial cards, emphasizing desirable behaviors among migrants, which can be used at health facilities at the place of destination (ii) sensitizing health providers to offer services to even temporary migrants without discrimination (iii) Encouraging temporary migrants to avail services from nearby health facility after they return to the slum even if camp has already been held.

Prepare for rapid influx of migrant labour resulting in increased informal settlements

Delhi is likely to witness a boom in construction industry with new residential colonies, flyovers, commercial complexes, expansion of Delhi Metro and the upcoming Commonwealth Games. These housing and infrastructural developments will attract a large number of migrant labourers who will reside in slums or other informal settlements. The government will need to gear up its primary health service delivery machinery to cater to this group of population.

ANNEXURE

Annex 1

The Standard of Living Index

The Standard of Living Index (SLI) used in the NFHS has been developed by considering many socioeconomic parameters. The SLI is a summary household measure and is calculated by adding the scores* for house type, toilet facility, source of lighting, main fuel for cooking, source of drinking water, separate room for cooking, ownership of house, ownership of agricultural land, ownership of irrigated land, ownership of livestock and ownership of durable goods. The index is calculated by summing the weights, which have been developed by International Institute of Population Sciences, Mumbai. These weights are based upon the relative significance of ownership of these items, rather than on a more formal analysis.

Validity of using low SLI as representative of the poor

Possession of items at household levels has been used for developing many standard of living indices. Possession of consumer durables and housing facilities has been shown in all countries to be associated with standard of living e.g., the higher the standard of living of a household, the more possessions they tend to have and the better their housing conditions are. In general, the 'rich' do not choose to live like the 'poor' in any country and the 'poor' generally lack possessions due to a lack of resources rather than out of choice. It is also fairly evident that the possessions used in the two indices 'possession of durables' and 'housing facility' are relevant measures of standard of living in the Indian context.

* *House type*: 4 for pucca, 2 for semi-pucca, 0 for kachha; *Toilet facility*: 4 for own flush toilet, 2 for public or shared flush toilet or own pit toilet, 1 for shared or public pit toilet, 0 for no facility; *Source of lighting*: 2 for electricity, 1 for kerosene, gas, or oil, 0 for other source of lighting; *Main fuel for cooking*: 2 for electricity, liquid petroleum gas, or biogas, 1 for coal, charcoal, or kerosene, 0 for other fuel; *Source of drinking water*: 2 for pipe, hand pump, or well in residence/yard/plot, 1 for public tap, hand pump, or well, 0 for other water source; *Separate room for cooking*: 1 for yes, 0 for no; *Ownership of house*: 2 for yes, 0 for no; *Ownership of agricultural land*: 4 for 5 acres or more, 3 for 2.0–4.9 acres, 2 for less than 2 acres or acreage not known, 0 for no agricultural land; *Ownership of irrigated land*: 2 if household owns at least some irrigated land, 0 for no irrigated land; *Ownership of livestock*: 2 if owns livestock, 0 if does not own livestock; *Ownership of durable goods*: 4 each for a car or tractor, 3 each for a moped/scooter/motorcycle, telephone, refrigerator, or color television, 2 each for a bicycle, electric fan, radio/transistor, sewing machine, black and white television, water pump, bullock cart, or thresher, 1 each for a mattress, pressure cooker, chair, cot/bed, table, or clock/watch.

Index scores range from 0–14 for a low SLI to 15–24 for a medium SLI and 25–66 for a high SLI.

The possession of durable goods is an indicator of a household's socioeconomic level¹. Current estimates from a number of sources suggest that about 30% of urban dwellers are poor and that urban poverty contributes to approximately 25% of the total poverty in India². Hence, it can be concluded that low SLI is adequately representative of the poor. By SLI measures also, about one-third (36%) of Indian households have a low standard of living.

Construct validation is based on assessing how well a 'particular measure relates to other measures consistent with theoretically derived hypotheses concerning the concepts (or constructs) that are being measured'³. In the concept of SLI, it is predicted that those who are the 'poorest' are more likely to suffer from ill health than those with a higher standard of living. Therefore, it would be expected that areas with high levels of poverty would also be areas with high levels of ill health (all other things being equal). Similarly, the concept predicts that people suffering from a low standard of living are also likely to suffer from a range of deprivations, for example, food deprivation (e.g., food of insufficient quantity and/or quality). Consequently, an area with low standard of living is also likely to contain food-deprived households. Hence, indicators of ill health and severe deprivation can be used as validation criteria for assessing the construct validity of SLI indices, e.g., the most valid (accurate) indices are likely to be those with the highest correlations with ill health and severe deprivation.

Reanalysis of NFHS data by SLI used in this report helps disaggregate the average data in a manner that shows consistency among the different indicators. This means that, for example, if IMR among low SLI is high as compared to average, then access to services such as TT and measles immunization is also consistently low. This further corroborates the reliability of SLI as an index representative of the economic status of households.

The District Level Household Survey (DLHS) uses a smaller set of assets compared with the NFHS to compute its Standard of Living Index (SLI). The Index is computed by summing the scores of individual assets as follows : Drinking Water : 3 for Own Tap, 2 for Shared Tap, 1 for hand pump or well and 0 for other sources; Types of House : 4 for Pucca , 2 for Semi-Pucca and 0 for Kachcha house; Source of Lighting : 2 for electricity; 1 for Kerosene and 0 for other; Fuel for Cooking : 2 for LPG, 1 for kerosene and 0 for other; Toilets Facility : 4 for Own Flush Toilet, 2 for Own Pit Toilet, 2 for Shared Toilet and 0 for No Toilet; Ownership of Items : 2 for Fan, 2 for Radio / Transistor, 2 for Sewing machine, 3 for Television, 2 for bicycle, 3 for motor cycle, 4 for Car, 4 for Tractor.

The total scores vary from the lowest of 0 to a maximum of 40. On the basis of the score, households have been categorized into three classes Standard of Living Index (SLI) as : Low SLI (Score of less than 9); Medium SLI (greater than 9 but less than or equal to 19) and high SLI (greater than 19).

1. Supriti, Bamhardt S and Ramanathan R. 2002. *Urban Poverty Alleviation in India: A General Assessment and a Particular Perspective*; Bangalore : Ramanathan Foundation.
2. Subramaniam. 2003. *Inequalities in health in India: The methodological construction of indices and measures- Draft report*, Department of health and social behavior, Harvard School of Public Health.
3. Carmines EG, Zeller RA. 1991. *Reliability and Validity assessment*. Newbury Park : Sage Publications.

Comparisons of SLI and other Indices of poverty

The 'Principle Component Method' was used to compare the SLI with state level estimates of people living below the poverty line. This analysis revealed that low SLI captured all population proportion below poverty line for most states.

An alternative SLI was calculated using a different method of weighting the indices. Proportionate Possession Weighting (PPW) is an adjustment that reflects the differences between various social and demographic groups and, as a result, takes account of these differences within population. Unlike the NFHS SLI, this PPW index refers entirely to a household's possessions. A good measure of the validity of each component of the NFHS and PPW, standard of living show the results of a criterion validity exercise at the individual level, they display the results from a series of bivariate logistic regression analyses for the odds of stunting in children, if a household lacks a standard living item. The analysis shows that a household that does not have a telephone or a color TV is 3.5 times more likely to have a stunted child than a household that owns a telephone. Households, which own a color television, are three times less likely to have stunted children than households that do not. Similarly, children in households that possess refrigerators or mopeds or pressure cookers are half as likely to suffer from stunting as households, which do not own these items. The comparison of NFHS SLI and PPW indices through the Pearson's correlation coefficients shows a very high positive correlation. These consumer durables seem to be valid measures of standard of living.

Both NFHS and PPW indices were found reliable based on Cronbach's alpha coefficients. The alpha coefficient is the average correlation between the set of questions asked (the standard of living index) and all other possible sets of deprivation questions (standard of living indices) of equal length (equal number of questions). Cronbach's alpha coefficients score is 0.86 for 20 items used in PPW SLI and 0.79 for 27 components of NFHS SLI. According to Nunnally (1981), "in the early stages of research, one saves time and energy by working with instruments that have modest reliability, for which purpose reliabilities of 0.70 or higher will suffice. For basic research, it can be argued that increasing reliabilities much beyond 0.80 is

ⁱⁱ The experts participated in the meeting were Dr. Arvind Pandey, Director, IRMS, ICMR, New Delhi; Dr. HPS Sachdev, Professor, Department of Pediatrics of Maulana Azad Medical College, New Delhi; Dr. PM Kulkarni, Professor, Centre for Studies in Regional Development, School of Social Sciences, JNU, New Delhi; Dr. Massee Bateman, Senior Advisor in Child Health, USAID/India, New Delhi; Dr. Laveesh Bhandari, Director, Indicus Analytics, New Delhi; Mr. Jyoti Tewari, Program Management Specialist, PHN, USAID/India

often wasteful of time and funds, at that level correlation are attenuated very little by measurement error⁴.

Review of methodology for re-analysis by expert group

A one day expert group consultation was organized to review the process of NFHS 2 data reanalysis by SLI on April 22, 2003⁴. The expert group recommended that reanalysis of NFHS 2 data by Standard of Living Index would be a valuable exercise that would present representative data describing the health status of the urban poor at the state level as well as national level. NFHS SLI is well-accepted by development experts, academic institutions and Government of India institutions. It was also recommended that the disaggregating of data provided very good analysis to indicate the disparity between the low SLI population and the mean and will unmask the inequities that exist. It will also help understand further correlation with a range of variables. The experts cautioned against using reanalyzed NFHS data for comparing the urban poor with the rural poor or vice versa. To the extent possible, analysis should also provide the confidence intervals for important estimates in the disaggregated data. Findings of such an exercise should be disseminated at larger platforms for use in planning and programming, sooner rather than later, as such information is currently sparse.

Re-analysis of NFHS-2 data using ISSA Package

Standard of Living Index of NFHS-2 is the basis for the disaggregation of the data in the reanalysis used in this report. Data have been disaggregated for urban areas by using ISSA (Integrated System for Survey Analysis) developed by ORC MACRO International. This software package originally developed for Demographic and Health Surveys conducted in other developing countries which are similar to the NFHS. ISSA provides complete processing for survey data including data entry, secondary processing, tabulation, report generation, data file documentation. It uses dictionaries to describe data, and applications to define what to do with the data. The re-coded NFHS-2 data of the respective states and all India is used for the reanalysis. As the first step, the data was analyzed for rural and urban areas. Subsequently urban data was separately disaggregated into three groups each by low, medium and high SLI. For conducting the aforementioned analysis of the recoded data, a set of programs was developed in the ISSA package which generated the required tables by standard of living index.

4 International Institute for Population Sciences (IIPS) and ORC-Macro (2001), *National Family Health Survey (NFHS-2), India 1998-1999: India* IIPS, Mumbai.

Annex 2 : Selected health indicators by Standard of Living Index- Delhi NFHS 2, 1998-99

Health Indicator	URBAN POPULATION				RURAL
	LOW	MEDIUM	HIGH	Total	LOW
Mortality					
Neonatal Mortality Rate (for the ten-year period preceding the survey)	39.3*	44.6	14.8	27.4	(30.3)
Infant Mortality Rate (for the ten-year period preceding the survey)	94.4*	72.1	24.0	45.9	(49.3)
Under-5 Mortality Rate (for the ten-year period preceding the survey)	135.5*	90.6	31.0	58.4	(49.3)
Immunization rates					
Percentage of children aged 12-23 months who are completely immunized	24.7*	52.3	76.8	68.6	(80.9)
Percentage of children aged 12-23 months who have received measles immunization	37.3*	56.4	86.6	76.7	(84.7)
Percentage of children aged 12-23 months left out from UIP (Children not receiving DPT 1)	25.9*	32.0	3.6	9.1	(7.8)
Percentage of children aged 12-23 months dropping out from UIP (DPT 1 to DPT 3)	36.6*	7.0	11.9	11.4	(7.5)
Childhood Morbidity					
<i>Percentage of children suffering in past two weeks from:</i>					
ARI	15.8	22.7	14.9	17.1	15.2
Fever	38.6	41.7	33.2	36.0	33.4
Any diarrhea	45.6	29.7	28.3	29.9	32.1
Percentage of mother who know about ORS	52.5	66.4	81.7	75.4	59.2
Percentage of mother who know two or more signs for medical treatment of diarrhea	42.1	23.6	37.6	33.0	35.0

Selected health indicators by Standard of Living Index- Delhi NFHS 2, 1998-99				
Health Indicator	URBAN POPULATION BY SLI			RURAL
	LOW	MEDIUM	HIGH	LOW
Treatment for Childhood Morbidities				
Percentage of children taken to health facility for diarrhea	79.4*	77.0	84.8	82.9
Percentage of children treated with ORS or recommended home fluid	44.7*	49.9	55.9	42.0
Percentage of children taken to health facility for symptoms of ARI (fever, cough, rapid breathing)	85.2*	72.0	90.6	82.6
Malnutrition among Children				
Percentage of children under 3 years who are underweight (Wt. for age: Below -2 SD [includes children below - 3 SD])	43.4*	49.4	23.8	32.8
Percentage of children under 3 years who are severely underweight (Wt. for age: Below -3 SD)	14.4*	14.7	4.5	8.2
Percentage of children under 3 years who are stunted (Height for age: Below -2 SD [includes children below - 3 SD])	47.3*	47.1	28.8	35.4
Percentage of children under 3 years who are severely stunted (Height for age: Below -3 SD)	18.9*	24.2	14.2	17.5
Breastfeeding				
Percentage of infants breast fed within one hour of birth	23.0	15.3	28.4	24.2
Percentage of infants whose mother squeezed first milk from breast	62.7	61.7	59.8	60.5
Percentage of children 0-3 months who are exclusively breastfed	23.9*	28.0*	5.6	11.3
Complementary feeding				
Percentage of children 7-9 months who receive breast milk and solid/mushy food	31.9*	75.6*	68.2	68.9
				50.6*

Selected health indicators by Standard of Living Index- Delhi NFHS 2, 1998-99

Health Indicator	URBAN POPULATION BY SLI				RURAL	
	LOW	MEDIUM	HIGH	Total	LOW	LOW
Anemia Among children						
Any anemia	82.7	81.2	61.6	69.1	68.0	
Mild anemia	24.6	24.6	21.2	22.4	19.7	
Moderate anemia	54.9	52.8	37.7	42.7	44.7	
Severe anemia	3.2	3.8	3.2	4.0	3.6	
Vitamin A supplementation						
Percentage of children 12-35 months of age who have received at least one of vitamin A	20.8	23.7	38.0	32.1	38.2	
Percentage of children 12-35 months of age who have received at least one of vitamin A within last 6 months	10.5	14.5	18.5	16.5	26.2	
Anemia among women						
Any anemia	42.7	49.5	36.7	40.5	39.8	
Mild anemia	32.6	33.8	27.4	29.4	32.2	
Moderate anemia	8.0	14.3	8.0	9.8	6.4	
Severe anemia	1.9	1.4	1.2	1.3	1.1	
Antenatal care						
Percentage of births whose mothers consumed iron-folic acid supplements for 3 + months	60.2*	77.1	84.1	81.1	83.6	
Percentage of births whose mothers received tetanus toxoid vaccines (minimum of 2)	64.7	80.5	89.2	85.1	83.5	
Percentage of births whose mothers had ante-natal visits (minimum of 3)	35.8	53.7	80.7	69.3	58.1	
Communicable Diseases						
Prevalence of Tuberculosis (per 100,000 persons)	1315	1070	335	548	92	
Prevalence of Malaria (per 100,000 persons)	784	1099	411	592	725	

Health Indicator	URBAN POPULATION BY SLI			RURAL
	LOW	MEDIUM	HIGH	
Safe delivery				
Percentages of deliveries at home	69.1	52.2	22.0	34.8
Percentages of deliveries at a health center (public/private/NGO)	22.6	41.2	77.0	61.8
Percentage of deliveries attended by a health professional at home or at a health facility	29.1	47.8	82.8	68.2
Fertility and the Use of Contraception				
Total Fertility Rate	4.79	2.56	2.21	2.37
Birth Interval (median number of months between current and previous birth)	31.6	32.9	35.5	34.4
Contraceptive prevalence rate (any method, currently married women)	34.8	56.9	68.2	64.0
Modern Contraceptive prevalence rate (any modern method, currently married women)	31.3	49.7	60.2	56.4
Female sterilization method rate	20.8	27.0	25.5	25.7
Male sterilization method rate	1.7	2.9	2.1	2.3
Permanent sterilization method rate	22.5	29.9	27.6	28.0
Female sterilization method in proportion to total modern contraceptive prevalence method (percentile)	66.5	54.3	42.4	45.7
Environmental health conditions				
Percentage of Households with access to piped water supply at home	84.4	80.9	90.3	87.6
Percentage of Households accessing public tap / hand pump for drinking water	9.6	16.5	9.0	11.0
Percentage of Household using a sanitary facility for the disposal of excreta (flush / pit toilet)	74.6	91.1	99.4	96.3
Percentage of Household not having any toilet facility	24.1	8.9	0.6	3.7
Number of ever-married women	63	623	1526	2212
Number of Households	83	722	1672	2477
Number of children < 3 years	44	221	425	690

Age distribution of population by standard of living-Delhi NFHS 2, 1998-99

	URBAN			RURAL
	LOW	MEDIUM	HIGH	
Population by age (male)				
< 1.....	4.9	2.2	1.8	1.9
1-4.....	14.2	8.3	7.6	7.9
5-9.....	17.2	14.5	9.8	11.2
10-14.....	10.7	13.5	10.3	11.3
15-19.....	9.1	12.3	10.8	11.2
20-24.....	5.9	9.0	8.9	9.4
25-29.....	7.4	7.6	8.9	8.5
30-34.....	11.3	7.1	7.5	7.4
35-39.....	7.9	7.4	7.0	7.2
40-44.....	5.4	7.3	6.1	6.4
45-49.....	2.5	3.7	5.7	5.1
50-54.....	0.5	2.5	3.5	3.2
55-59.....	1.1	1.4	2.9	2.4
60-64.....	1.0	1.1	3.1	2.5
65-69.....	0.5	0.9	1.9	1.6
70-74.....	0.5	0.6	1.9	1.5
75-79.....	0.0	0.3	0.8	0.6
80 +.....	0.0	0.3	0.7	0.6
Missing/DK	0.0	0.0	0.0	0.0
Total percent	100.0	100.0	100.0	100.0
Total male population	198	1,678	4,746	7068
Population by age (female)				
< 1.....	4.8	2.0	1.5	1.7
1-4.....	17.6	9.4	6.6	7.6
5-9.....	13.9	14.9	9.8	11.2
10-14.....	9.1	14.6	10.4	11.7
15-19.....	4.2	10.2	10.2	10.1
20-24.....	9.7	9.4	10.6	10.3
25-29.....	14.5	8.0	8.9	8.7
30-34.....	5.5	9.1	7.7	8.0
35-39.....	4.8	8.0	7.7	7.7
40-44.....	3.7	3.6	6.1	5.4
45-49.....	1.9	2.9	4.8	4.2
50-54.....	2.5	2.0	4.3	4.2
55-59.....	2.5	1.5	4.0	3.6
60-64.....	2.9	1.6	2.6	3.2
65-69.....	0.6	1.1	2.1	2.3
70-74.....	1.9	0.8	1.5	1.8
75-79.....	0.0	0.3	0.7	1.3
80 +.....	0.0	0.4	0.6	0.6
Missing/DK	0.0	0.0	0.0	0.5
Total percent	100.0	100.0	100.0	100.0
Total female population	161	1,678	4,286	6334
				536

Annex 3 : Selected health indicators by Standard of Living Index- Delhi , District Level Household Survey (2002-04)

Health Indicator	U R B A N				R U R A L			
	LOW	MEDIUM	HIGH	Total	LOW	MEDIUM	HIGH	Total
Immunization Rates								
% children aged 12-23 months receiving complete immunization	23.5	46.8	72.2	62.3	16.7	44	47.4	42
% children aged 12-23 months receiving vaccination for Measles	47.1	61.2	85	76	33.3	64	63.2	60
% of children aged 12-23 months left out of UIP (children not receiving DPT-1 vaccination)	35.3	17.9	3.7	9.3	33.3	12		10
% of children aged 12-23 months dropping out (DPT-1 to DPT-3) of UIP	17.6	11.4	10	10.7		28	15.8	20
% of children aged 12-35 months receiving Vitamin A drops	7.7	24.3	40.3	34.1		23.3	41.7	28.4
Childhood Morbidity								
% children suffering from diarrhea during the past 2 weeks	18.6	12.3	10.7	11.4	18.8	7.8	8.9	7.4
% children suffering from pneumonia during the past 2 weeks	14	9.1	7.3	8.1				
% children who received treatment for diarrhea	62.5	74.1	79.7	77	66.7	20.8	16.1	18.8
% children who received treatment for pneumonia	83.3	68.3	83.5	77.5		66.7	40	54.5
Percentage of children treated with ORS	25	36.5	43.6	40.3		75	77.8	75
						16.7	20	18.2
Breastfeeding								
% of infants breastfed within 2 hours of birth	18.6	24.3	27.2	26	25			
% of infants whose mothers squeezed the first milk	72.1	58.1	39.2	46.5	73.3	29.9	37.5	32.2
						42.5	43.6	46.2

Annex 3 : Selected health indicators by Standard of Living Index- Delhi , District Level Household Survey (2002-04)

Health Indicator	U R B A N				R U R A L			
	LOW	MEDIUM	HIGH	Total	LOW	MEDIUM	HIGH	Total
Antenatal Care								
Percentage of mothers who had a minimum of three antenatal visits	35.6	55.9	79.7	70.3	73.3	50	72.2	57.5
Percentage of mothers who received at least 100 IFA tablets during pregnancy	42.5	17.8	36.9	53.3	43.8	18.8	36.8	57.4
Percentage of mothers who received at least 2 TT injections during pregnancy	46.7	68.9	81.7	76.3	37.5	67.1	77.8	67.8
Safe Delivery								
Percentage of deliveries assisted by skilled person	17.8	47.1	76	64.4	25	38.2	75.9	50.7
Percentage of deliveries in institutions	11.1	37.2	68.3	55.9	18.8	28.9	59.3	39
Fertility and the Use of Contraception								
Mean Children Ever Born (CEB)	3.6	3.0	2.4	2.6	2.9	2.9	2.5	2.7
Birth interval (median number of births between current and previous birth)	27.5	29	32	31	23	29	29	29
Not using	46.7	38.1	26.7	30	57.9	36.9	28.7	33.9
Percent couples using permanent method	21.3	28.1	25.7	26.3	26.3	40.8	38.2	38.7
Percent couples using spacing methods	21.3	25.2	37	33.7	15.8	14.6	27.5	21.2
Percent couples using traditional methods	10.7	8.6	10.6	10		7.6	5.6	6.2
Environmental Health Conditions								
Percent of households with access to piped water supply at home	2.2	31.4	83.6	68.3		29.2	76.6	51.1
Percent of households using public taps or handpumps	91	63.5	15.1	29.2	60	59.1	17.8	38.5
Percent of household not having toilets	58.4	17.7	1	6.4	76	50.3	10.2	31.8
Number of households	184	2475	5989	8648	39	236	210	485
Number of ever married women	89	1570	4172	5831	25	171	197	393