Although India lives mostly in her villages, increasing numbers are making their way into the cities. Today, more than 285 million Indians (about 30%) live in urban areas. Desperate and acute rural poverty forces millions of families to migrate to cities in search of a better livelihood. This trend towards urbanisation is more due to acute rural poverty than to the economic opportunities available in urban areas.

No Shangri-la awaits the migrants. They end up living and fending for themselves in habitations totally unfit for humans. It is almost as if the urban slums and the millions that inhabit them do not exist for city planners.

The migrants eke out a survival amidst very hostile environs, where they lack the support of the homogeneous and caring communities of their villages. Unlike the extended families in the countryside, urban migrants are more likely to be nuclear families, causing a disruption in familial roles.

The implications these have for the health and development of the migrants are staggering. It is perhaps better explained by examining the different categories of migration. Some migrants come to cities alone and live alone, without any family support. From the health point of view, they are considered high-risk groups for sexually transmitted infections such as syphilis, gonorrhoea and AIDS.

Others migrate with a few other family members who can contribute to the workforce in urban areas. Young people in these divided families may get involved with antisocial elements and get into alcoholism, drug addiction and urban violence. Often the economic burden shifts to women and they are forced to work as servants and street vendors to support the family.

The women and children suffer the most in terms of health. Dire poverty and gender disparities ensure that they do not get even the requisite amount of calories or nutrients. Proper nutrition is further impaired by non-food factors such as inadequate sanitation facilities,
insufficient housing and lack of access to clean drinking water.

Against this background, it became essential to study the impact that changing family and social structures have on the health status and health-seeking behaviour of the most vulnerable urban populations. This study looked at Bhopal, the capital of Madhya Pradesh (MP) for some answers.

The emphasis of the study was on seeking to establish how family and social structures, health status, morbidity and mortality patterns, health-seeking behaviour, migration, and other socio-economic-demographic determinants affect the most vulnerable urban population in the city of Bhopal.

Why Bhopal?

Bhopal, with a population of 1.43 million and an area of 284.9 sq km, was considered suitable for this study on many counts. According to the Planning Commission's Estimates of Poverty of 1997, based on 1993-94 figures, MP had the highest urban poverty ratio of 48.4% when the Indian average was 32.4%. MP also ranks among the three worst states in India in its health indices, with a high infant mortality rate of 106 per 1,000, crude death rate of 12.6 and average life expectancy of 53.6 years.

As with many other aspects of poverty, the problem of health is often one of governance. Therefore the assessment of the impact of health among vulnerable populations also calls for understanding the link between macroeconomic adjustment policies, health sector reform, household-level access to healthcare and the quality of healthcare.

Survey of Slums

A survey of selected slums in Bhopal was conducted, in addition to interviews to collect data for case studies and focus group discussions. The slums were grouped broadly as slums in the central city, suburban slums and slums on the city's periphery.

A total of 1,460 households from these slums were chosen. Quantitative household level data was collected using a detailed questionnaire. Qualitative data was collected by conducting interviews (formal and informal), case studies and focus group discussions. In-depth interviews were conducted with 30 households.

Data collection was launched in Bhopal by establishing contact with Bhopal Municipal Corporation, the Departments of Health and Family Welfare (Government of Madhya Pradesh), NGOs and the United Nations Fund for Population Activities (UNFPA).

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The study population consisted largely of migrants. A majority of the population was from rural MP, especially from districts like Hoshangabad, Raipan, Sagar, Vidisha and Sehore, the largely rural underdeveloped districts of MP. Population from other states living in the slums were largely from Uttar Pradesh and Maharashtra, two adjoining states.

More than three quarters of the population has been there for more than 10 years. Yet they lived in squatter-like temporary settlements in the studied slums. Migration was coupled with forced resettlement as well as voluntary internal movement of households from one slum to another.

Migration was not a one-time event for most of the poorest families. Manoeuvring with migration and family composition was a very important strategy employed by the most vulnerable families. Close to 30% of the households were joint or extended households and 10% were headed by women.

The survey population comprised scheduled castes, scheduled tribes and Muslims. The population was characterised by very low levels of education (63% with education up to primary) and unskilled employment (less than 4% of the 15-64 year old population was in the organised sector).

A large number of women and men reported that they were unemployed (77% women and 28% men). Income levels were very low with 65% reporting monthly incomes of less than Rs 2,000. More than half the families were in debt. Close to a quarter of the families reported debts of more than Rs 10,000.

Abysmal Standards of Living

GIVEN these figures, it was not surprising that most households suffered from abysmally low standards of living in terms of crowded housing and poor water supply and sanitation. The situation was worse in squatter-like settlements. Less than a seventh lived in pucca (brick and mortar) houses, with

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**Sample Area & Size**

<table>
<thead>
<tr>
<th>Category</th>
<th>Slums</th>
<th>Houses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central city</td>
<td>3</td>
<td>516</td>
</tr>
<tr>
<td>Suburbs</td>
<td>4</td>
<td>377</td>
</tr>
<tr>
<td>Extended suburbs</td>
<td>3</td>
<td>567</td>
</tr>
<tr>
<td>Total</td>
<td>10</td>
<td>1,460</td>
</tr>
</tbody>
</table>

*Note: A 10% sample of the total households from each slum was selected by systemic random sampling.*

**Sample Composition**

<table>
<thead>
<tr>
<th>Age</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;5</td>
<td>447</td>
<td>418</td>
<td>865</td>
</tr>
<tr>
<td>5-9</td>
<td>510</td>
<td>552</td>
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<tr>
<td>10-14</td>
<td>616</td>
<td>582</td>
<td>1,198</td>
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<tr>
<td>15-24</td>
<td>995</td>
<td>886</td>
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<td>561</td>
<td>608</td>
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<td>509</td>
<td>443</td>
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</tr>
<tr>
<td>45-54</td>
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<td>228</td>
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<tr>
<td>55-64</td>
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<td>179</td>
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</tr>
<tr>
<td>65+</td>
<td>139</td>
<td>100</td>
<td>239</td>
</tr>
<tr>
<td>Total</td>
<td>4,239</td>
<td>3,996</td>
<td>8,235</td>
</tr>
</tbody>
</table>

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**Table:**

- **Category:** Central city, Suburbs, Extended suburbs
- **Households:** 516, 377, 567
- **Total:** 1,460
- **Note:** A 10% sample of the total households from each slum was selected by systemic random sampling.
only 47% of the households having some form of toilet facility. A meagre 12% of the households had access to modern toilet facility with flush. A considerable majority - 85% of the households - reported that garbage removal and drainage were unsatisfactory. During rains, the inhabitants faced the additional problem of water logging.

Morbidity in the population was studied in terms of five categories: minor communicable diseases, major communicable diseases, non-communicable diseases, other diseases or health problems and physical disabilities.

The survey found that a majority of people suffer from minor communicable diseases, with 32% suffering from common cold and cough and 20% suffering from fever in the recall period one month before the survey. More than half the children below five years had cough or cold and 27% had fever during this period. Diarrhoea, dysentery, worm infestation and conjunctivitis accounted for almost 3% of the total reported illnesses.

Among the major communicable diseases, malaria was the most commonly reported illness with about 4.3% reporting it. This was however lower than the state average. TB was reported by 0.8% and jaundice by 2.2% of the population. These figures are higher than the state averages.

In the category of other diseases or problems, weakness, joint pain and pain in limbs was frequently reported (13.5%). Among women this problem was reported by 21%. Among women in the 15-45 years age group, 28% reported stomach pain. Anaemia was reported among 12% of the women. Among women in the age group 15-64, this figure was about 27%. Moderate and severe anaemia was reported among 13% of the women.

Among non-communicable diseases, the most commonly reported problem was blood pressure (2.6%). Asthma was reported among 1.3%. Among physical disabilities, vision impairment was most common, reported by 2.3% of the population.

**Morbidity Differentials**

Major as well as minor communicable diseases were reported more in the lower income groups. The female population reportedly had higher levels of morbidity. The survey revealed that more morbidity was reported in the slums located in the vicinity of the gas plant (now closed) that caused the disaster.

People living in these slums displayed the lowest levels of income, crowding and very poor civic and other amenities. A majority were squatter-like settlements. It is also possible that the gas tragedy and related compensation issues, and political awareness could have contributed to higher or over reporting of illnesses in this area.

**Healthcare Utilisation**

Significantly, across all categories, government allopathic facilities were utilised by the maximum number of households. 56% of the households reported that they usually visit a public health facility. This fact should actually stem the ongoing privatisation philosophy that seeks to diminish the role of the state in health.

The proportion of households who reported that they usually go to private healthcare facilities was as high as 56% in slums that are located in the outskirts of the city. The proportion utilising private health facilities is more among households with higher monthly incomes. Public health facilities were used more for major health problems.

It was also found that coverage for basic antenatal, postnatal and immunisation services was very high. However, there was substantial under-coverage in the sense that most women of poorer sections did not complete the entire required antenatal or follow-up visits. Visits were delayed in a substantial number of cases. Similarly, immunisation coverage was high but there is a substantial delay in case of Diphtheria, Pertussis and Tetanus (DPT) and Bacillus Calmette-Guerin vaccination (BCG provides protection against tuberculosis).

**Healthcare Expenses**

Close to one fifth of the households cited medical expense as their most important expense. Another one fourth of the households reported medical expenses as their second most important expense. Households with higher monthly incomes and those in the organised sector spent more on medical care. But even among those households with monthly income of less than Rs 1,000,
The Shastri Applied Research Project seeks to address urgent issues in social development and health, economic reform and environmental management. Canadian and Indian researchers are collaborating on 19 studies on various topics. SHARP is implemented by the Shastri Indo-Canadian Institute and funded by the Canadian International Development Agency.

FOR more than two decades, Bhopal has been associated with the biggest gas tragedy in the world caused by leaking gas from a Union Carbide factory. There is no separating the two, and as this research team found, there is no escaping it. The gas tragedy formed the dominant backdrop against which the field research was carried out. And one of the main reasons was the field data collection period - December 2004 - coincided with the 20th anniversary of the gas disaster. That was also the time when compensations were being paid out to those affected by the tragedy. The city was virtually covered with posters and marches were being organised to mark the anniversary.

When the project researchers arrived in the central city slums, which are located near the former Union Carbide factory, armed with the thick interview schedules, there was an immediate buzz around them. The slum dwellers crowded around wanting all their names to be included in the survey. They assumed that this survey was for determining the beneficiaries for compensation and no one wanted to be left out. The team had to exercise utmost tact to convince them otherwise.

The researchers faced difficulties when families not selected for the survey demanded to know why. The angst was deep. Ramila Bisht of Tata Institute of Social Sciences, Mumbai used the one analogy that she thought the people would understand. She told them that to test if the rice is cooked, you check a few grains from the boiling cauldron. You do not check each and every grain. Similarly, the families selected for the survey would point the researchers towards determining the health of the rest of the community. This slice of native wisdom did appeal to them.

A TRAGEDY THAT REFUSES TO DIE


about 20% had spent more than Rs 1,000 over a period of one year.

Conclusion

IT is clear from the study that there has to be better interaction between departments concerned with health, sanitation and water supply. Similarly, better interaction between government and non-governmental organisations is needed. An issue of concern is the lack of special attention to squatter-like slums, which in turn means that the state lacks a proper slum rehabilitation and development policy.

The study highlighted core policy areas such as health needs of poor women, men and children, the state's responsibility for the urban poor, sharp disparities between the rich and the poor in accessing healthcare, adverse effects of health sector reforms and the implications for public-private partnerships in healthcare.

The project had set up an informal local advisory committee consisting of members representing all such bodies that work in the field of health and urban development in Bhopal. The committee shared its experiences in dealing with health and related issues. It also provided support in building rapport with the community.