CHAPTER - VII
Problems Due To Urbanization

7.0 INTRODUCTION

The ensuing chapter pertains to the study of urban problems which have cropped up in the urban industrial landscape of Asansol sub-division.

The history of urban growth goes back to 1896. When Asansol was constituted a municipality until 1909 in which year the sub-divisional head-quarters were transferred to Asansol, the subdivision was known as the Raniganj Subdivision. It contained 2 towns: Asansol, its headquarters and a great railway centre and Raniganj, its former head-quarters and 811 villages. In 1881 the town was a rural tract (Peterson, 1910). Therefore, Asansol along with Raniganj stimulated urban growth in this tract. Having had its own municipal service and urban infrastructure Asansol became the centre of mining, commercial and industrial activities. In course of time Burnpur, Chittaranjan, Kulti, Jamuria, Barakar also grew up. The accelerating effects of these towns were enough to urbanize some rural areas. And some towns gradually developed like Sitarampur, Niamatpur, Hindustan Cables town, J.K. Nagar etc.

It can be said, that due to economic viability of the region the pace of urbanization in and around is so fast that it has been growing rapidly. Rapid urbanization is responsible for expansion of the area of the Asansol Urban tract in twofold ways: extension of the area of the constituent towns over their dependent rural peripheries and inclusion of new town.

Thus with the passage of time Asansol urban tract became a conglomeration of municipalities of Raniganj, Kulti, Jamuria and Asansol Corporation along with some small towns and urban outgrowths.

The local administrative authorities of these urban centres are entrusted with the responsibility of providing urban amenities. But similar to all other urban tracts of India, there exists a lacuna in the number and quality of amenities that should be provided and that which is actually provided by the local bodies of administration.
Therefore, urban industrial landscape in the area under study is haunted by some inherent problems of its own ranging from living conditions to outdoor pollution, from non-availability of urban amenities to dearth of infrastructural facilities.

Inadequate housing and its faulty design in terms of improper ventilation, non-availability of separate room for separate purpose like kitchen, dining space and bed room, improper sanitation facilities and unprotected drinking water have become a matter of grave concern for health. No doubt along with administrative lapse ignorance and illiteracy are the two important reasons other than socio-economic conditions which often come in the way of the masses to understand and to recognise the importance of proper housing, cleanliness, sanitation and supply of pure potable water.

7.1 HOUSING

Housing condition forms one of the basic amenities of urban centres. Inadequate housing and its faulty design with respect to proper ventilation, non-availability of separate room for separate basic functions like preparation of food, eating and sleeping have become a grave concern to health.

7.1.1 Factors Influencing Housing Condition

The quality and extent of housing accommodation of a family are influenced by a number of factors like family size, income, occupation, educational level, degree of overcrowding in an area indicated through privacy index denoted by number of persons per room.

7.1.2 Covered Area

According to Asansol Durgapur Development Authority (ADDA) report, average covered area occupied per person is 160.3 sq.ft. in this belt. The corresponding figure is found to be highest – 200.7 sq.ft. for Raniganj followed by that of Kulti, Jamuria and Asansol Corporation with 117.1, 102.9 and 133.2 sq.ft. respectively.
7.1.3 Number of Rooms

As per ADDA report for the whole subdivision about 70 percent of the population has only one room for its use. This percentage is highest (15.3 percent) in Raniganj Municipality followed by Jamuria Municipality (12.7 percent), Kulti (5.6 percent) and Asansol City (5.4 percent).

7.1.4 Dwelling Unit Type

The type of dwelling units are classified into three broad categories viz., concretized dwelling called *pucca*, semi *pucca* and non-concrete dwelling called *kutcha* based on the material used for their construction. (Table No. 7.1.4)

<table>
<thead>
<tr>
<th>Type of Dwelling Unit</th>
<th>Percentage of Population</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Pucca</em></td>
<td>48.7</td>
</tr>
<tr>
<td>Semi-<em>Pucca</em></td>
<td>27.3</td>
</tr>
<tr>
<td><em>Kutcha</em></td>
<td>24.0</td>
</tr>
</tbody>
</table>


According to ADDA report, in Asansol City and Kulti Municipality percentage of people residing in *pucca* houses is 56.1 while in Raniganj and Jamuria, it is 47.5 and 39.0 percent respectively. 41.5 percent of the rural belt population has *pucca* houses.

The percentage of population living in *kutcha* houses is 9.9 in Asansol city with 16.2 in Kulti, 26.4 in Raniganj and 23.6 in Jamuria. The rural sector is reported to have 37.3 percent *kutcha* houses.
7.1.5 Nature of Dwelling Units

In Asansol subdivision 68 percent live in single storied houses, 12 percent in double storied and 1 percent living in multistoried houses. The population dwelling in flats comprise of 2 percent of the population.

In the rural areas 72 percent of the total population live in one storied houses, 11 percent in two storied houses and less than 1 percent live in multistoried buildings.

7.1.6 Rent

Average monthly rent paid by a family in Asansol subdivision is Rs. 458 per month. It is Rs. 404.1 in Asansol city, followed by Rs. 393.1 in Kulti, Rs. 304.8 in Jamuria and Rs. 271.4 in Raniganj. In the adjoining Durgapur Corporation area it is Rs. 765 per month. This may be explained by the fact that more number of old tenants in those urban areas are paying the same old rent than the new tenants in Durgapur city.

7.1.7 Kitchen

The ADDA report states that 44 percent of the total population have separate kitchen while 24 percent of households have kitchen within their living room and 22 percent share the kitchen with others. About 1.2 percent of population has no permanent space for cooking. They cook at any odd place within their household.

7.1.8 Dismal Condition

Thus, from the above account a synoptic view of the dismal housing condition can be derived, as 70 percent of the population dwells in a single room with average household size being 5.2 persons. Moreover, the percentage of single room dwellers is higher in the city of Asansol (5.4 percent) than in the adjoining Durgapur City (3.6 percent) situated in somewhat similar physical and socio-economic surrounding. It is also an intriguing matter if one considers the percentage of population living in kutcha houses, one storied building and sharing a kitchen with other families or
having no fixed place to cook in this present era. The average covered area is 133.2 sq.ft. per person in Asansol city is also a matter of grave concern.

7.1.8.1 Household

According to ADDA Report, a group of persons normally living together and taking food from a common kitchen is termed as a household. The numbers of a household may or may not be related by blood or may not be related by marriage or adoption.

7.1.8.2 Reasons

The average household size being 5.2 (according to ADDA report) implies that congested living conditions exist. Such living conditions prove to be a conducive to the spread of contagious diseases among the less privileged strata of society. Congestion also hampers the normal liveability of human beings. Moreover, the very fact that the percentage of population living in *pucca* houses in Asansol city, Raniganj, Jamuria and Kulti municipalities also signifies that impact of urbanization has not penetrated to the desirable level in the sphere of healthy housing environment.

Therefore, it may be deduced that urbanization due to mining and industrialization has failed to uplift the economic condition of the region. This has sequelled into non-ensurance of privacy and provision of adequate descent shelter, which is recognised as one of the basic urban amenity. Such a problem has emerged due to increase in population, unplanned industrialization and urban development.

7.2 SANITATION

Sanitation system is in an appalling condition in this belt of households still practice open air defecation. According to ADDA report in Asansol City 24.8 percent use open fields for defecation, 43.0 percent in Kulti and 47.2 percent in Jamuria. (Table No. 7.2)
Table No. 7.2
Types of Toilets Used in Asansol Subdivision
Total No. of Households Surveyed – 1400

<table>
<thead>
<tr>
<th>Region</th>
<th>Percentage of household</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connected with sewer system</td>
<td>10.2</td>
</tr>
<tr>
<td>Septic Tank</td>
<td>39.5</td>
</tr>
<tr>
<td>Pit</td>
<td>1.0</td>
</tr>
<tr>
<td>Service Privy</td>
<td>2.5</td>
</tr>
<tr>
<td>Open Field</td>
<td>34.6</td>
</tr>
<tr>
<td>Others</td>
<td>3.5</td>
</tr>
<tr>
<td>Not Reported</td>
<td>8.7</td>
</tr>
</tbody>
</table>


7.2.1 Sanitary Practice

It is very sad to note that in this period of rapid urbanization and industrialization coupled with environmental consciousness among the residents as high as 34.6 percent population still use ‘open space’ for the purpose of defecation.

The existence of the system of service privy and pit further signifies the unhygienic deplorable sanitary practices prevailing in this belt.

7.2.2 Problem not addressed

It seems that the present plan of the Government to have septic tank type of sanitary system in every household of the urban centres has proved to be futile. Current plans do not adequately address the crucial problem of providing adequate access to basic sanitary conditions for the urban poor and vulnerable groups. In the rural sector 72% of the total rural population still use the open field for defecation.
7.2.3 Factors of Unhygienic Sanitary Practices

Such a problem can be attributed to people’s inherent attitude of continuing with the age-old system of unhygienic sanitary practices. Economic condition of the residents also seems to dictate their choice.

7.2.4 Due Attention Required

Proper attention to sanitation is imminent as open air defecation poses health threat. Moreover, the people engaged in collecting and transporting the night soil are exposed to health risk. So, the local bodies should implement the measures effectively to evoke hygienic sanitary practices. Provision of pay and use public toilets can be a viable solution to unhygienic toilets for the poor and vulnerable group. Extension of financial help or supply of subsidised materials for installing low cost sanitary system will also be an effective measure both in urban and rural areas.

7.3 DETERIORATING WATER QUALITY

Deteriorating water quality is one of the aspects of serious concern among the other urban problems. Various factors like leakage, contamination, improper treatment may be said to be responsible for this.

7.3.1 Potential Career

Water has been a potential carrier of toxic inorganic and organic materials, non-biodegradable matters and pathogenic microbes which can endanger health and life. The waste water coming from slums, hotels, restaurants, residential areas, refuse, animal waste, human faecal matters, organic wastes, dissolved compounds, bacteria are nuisance to man.

7.3.2 Water Samples

According to WHO guidelines for drinking water quality, samples of water supplied by the local bodies at Barakar, Kulti and Asansol have turbidity above permissible limit (5 mg/l), for drinking. The presence of nitrite implies that organic matter is not fully oxidised. BOD and COD should be with 3 and
10 mg/l respectively. Moreover, presence of faecal matters indicates contamination (Fig. 27). Water samples from other sources like well, sand and river Damodar show turbidity and existence of impurities

7.3.3 Treated Water

There exists a gap in the quantity of treated water supplied by the local administration and the existing demand. Inhabitants of Asansol subdivision are compelled to consume such quality of untreated water from these sources. Ground water sources are also affected through seepage. The water quality of both treated and untreated water is unsatisfactory and unsuitable for drinking.

7.3.4 Negligent Administration

The very presence of faecal matters and impurities in the tap water of Asansol and Barakar filtered water at the filtration point conveys sheer negligence and lack of vigilance on the part of the administration.

It signifies that administration is unaware of the implication of consumption of water of undesirable quality by the inhabitants. They are in total disregard of the health impact of impure and contaminated water.

Insufficient quantity of water supplied through the distribution system by the authorities in these urban centres, leads to consumption of untreated impure water from wells, ponds and polluted water of river Damodar by the ill-fated residents of the sub-division.

7.3.5 River Damodar

River Damodar is the main source of water supplied through distribution system. According to a report of the Environment Department of West Bengal, 1999, this river is polluted with copper, zinc, lead, chromium, phenolic compounds, nitrite and mercury from discharge of effluents of mines, industries and urban sewers.
OBSERVATION ON WATER QUALITY OF DIFFERENT LOCATIONS IN ASANSOL SUBDIVISION (2005)

Source: Asansol Mines Board of Health.
7.3.6 Water Quality Monitoring

Monitoring water quality at regular intervals is scarcely followed at the distribution points. The distribution pipes are ill-maintained. So, leakages often remain unidentified or unnoticed, paving the way for contamination from polluted drainage and sewerage channels. According to Mines Board of Health, quality of water available from the distribution system in Asansol subdivision is unsatisfactory.

7.4 SCARCITY OF WATER

This region is noted for its water scarcity problem which agonizes the people throughout the year. But, with the advent of dry season the problem becomes more acute.

7.4.1 Areas

The areas facing water scarcity are Satpukuria, Kalipahari etc. of Asansol city, Samdih, Pahargora, Dabar etc. of Salanpur. In addition to these, Satgram, Birlagram of Jamuria; Searsol, Katagaria etc. of Raniganj; Ranitala, New Colony etc. of Kulti are the worst hit areas.

7.4.2 Sources

The sources of potable water in Asansol subdivision are community taps, community or personally owned tubewells, wells and tanks, community or personal ponds along with water channels like Nunia form other water sources (Table No. 7.4.2). The public supply of potable water is provided by the Public Health and Engineering Department along with the corporation and municipalities. The sources of water for public distribution system are Maithan Dam on river Barakar and Kalajharia on river Damodar. Major industrial and
Table No. 7.4.2
Source of Potable Water in Asansol Subdivision

<table>
<thead>
<tr>
<th>Source of Potable Water</th>
<th>Percentage of Household</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tap (Own &amp; Community)</td>
<td>56.5</td>
</tr>
<tr>
<td>Tubewell (Own &amp; Community)</td>
<td>12.3</td>
</tr>
<tr>
<td>Well (Own &amp; Community)</td>
<td>28.2</td>
</tr>
<tr>
<td>Tank</td>
<td>1</td>
</tr>
<tr>
<td>Others</td>
<td>0.9</td>
</tr>
<tr>
<td>Not Reported</td>
<td>1.1</td>
</tr>
</tbody>
</table>

Total No. of Households Surveyed – 1400


mining concerns like Indian Iron and Steel Co. Ltd., Chittaranjan Locomotive works, ECL have their own source and distribution network, for supplying water to its staff in residential areas and office buildings.

7.4.3 Causes of Water Crisis

(i) There is a big gap between the requirement and quantity of water supplied by the local authorities. In Asansol city 10-11 lakh gallons of water is supplied against a requirement of 15 lakh gallon per day. Jamuria municipality supplies 2.5 lakh gallons daily, while in Raniganj 12 lakh gallons of water are supplied.

(ii) This region being a mining belt, underground sources can scarcely be exploited in large quantity as it would disturb the hydrostatic balance. Moreover, lowering of ground water table due to mining (Joshi, 1990) is also ascribed as a contributory factor.

(iii) Significant fall in water level occurs in subsided areas like that adjacent to Mahabir Colliery in Raniganj.

(iv) Drying up of non-perennial rivers like Damodar, Ajoy and Barakar due to rise in temperature in summer. No doubt, 46% of the respondents in course of field investigation have ascribed water scarcity as one of the major problems.
7.4.3.1 **Hydrostatic Balance**

Water has occupied the underground voids created by indiscriminate and unscientific mining in the early days. The pressure exerted by water at rest has created a hydrostatic balance. The stability of a sizeable part of Asansol subdivision depends on this equilibrium. Withdrawal of underground water in large quantity will disturb this equilibrium thus endangering the stability of human settlement areas with mass-scale subsidence.

7.4.4 **Measures to be Adopted**

In view of the geohydrologic condition and the practice of mining activity in this belt local authorities can take up measures to ensure sufficient volume of potable water to all, which is recognized everywhere as one of the basic amenities.

* Reduction of wastage.
* Improvement of the total distribution system.
* Extension of water treatment capacity.
* Ensuring the supply of better quality of water, so that it creates neither immediate health hazard nor leads to long-term risk.

Such measures can pave the way in ameliorating the present situation of provision of tap water for 56.5 percent of population in Asansol subdivision.

7.5 **AIR POLLUTION**

Air pollution problems in urban environment are a global problem over several decades. According to WHO guidelines of air pollutant level, many cities already cross the tolerance limit of human exposure of individual pollutants. The major causative factors of such urban pollution are due to automobile exhaust and anthropogenic activities.

7.5.1 **Ambient Air Quality**

The air quality in Asansol subdivision particularly in view of Suspended Particulate Matter (SPM), and oxide of Nitrogen (NO\textsubscript{x}) is poor.
According to report on Environmental Management Plan of Asansol-Durgapur Industrial Corridor the primary cause of this deteriorating air quality are the large volumes of industrial emissions including those from plants or factories and mining operations. According to this report pollutant level is highest among all the urban areas of ADDA. Since the density of population is high, the impact of it on public health is significant.

7.5.2 Concentration of Pollutants

According to National Air Quality Standards (NAAQS), India, Respirable Particulate Matter (RPM) and Suspended Particulate Matter (SPM) level in all the locations have crossed the permissible limit of 60 mg/m$^3$ and 140 mg/m$^3$ respectively. NO$_x$ level recorded at Asansol near Hutton Road crossing is above permissible limit (60 $\mu$g/m$^3$) laid down by NAAQ, India. SO$_2$ is within the permissible limit. Concentration of air pollutants is significantly high in Asansol Bus Stand and Raniganj. (Fig. 28)

7.5.3 Vehicular Pollution

The increasing number of vehicles plying on the narrow congested roads of Asansol city, Jamuria, Kulti and Raniganj municipalities are the chief sources of air quality degradation. According to Motor Vehicles office at Asansol 1,78,596 vehicles have been registered in 2004.

The chief pollutants from transport sources are carbon monoxide (CO), oxides of nitrogen (NO$_x$) and lead (Pb). Other transport-related pollutants are SO$_2$, SPM, including RPM (Respiratory Particulate Matter), CO$_2$ and hydro-carbons.

Stop-go traffic conditions prevail within the Central Business District and adjacent areas of the Corporation and municipalities throughout the day. As shown in Table No. 7.5.3, this has a major impact on pollution levels as vehicles accelerating from 0 to 15 mph generate some 30 (CO$_2$) to 100 (HC) times the pollutants of the same vehicles cruising at 15 mph.
## Concentration of Air Pollutants in Asansol and Raniganj (2003)

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ASANSOL MUNICIPALITY</strong></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td><strong>ASANSOL BUS STAND</strong></td>
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<tr>
<td><strong>RANIGANJ</strong></td>
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<tr>
<td><strong>CHHOTO DIGHARI</strong></td>
<td></td>
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<td></td>
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<td></td>
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<tr>
<td><strong>RIVER SIDE</strong></td>
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<tr>
<td><strong>BURNPUR</strong></td>
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</tbody>
</table>

Source: West Bengal Pollution Control Board, Asansol & Steel Authority of India Ltd. (SAIL), 2004.
Table No. 7.5.3
Magnitude of Pollutants Generated From Different Driving Modes
(in parts per million, ppm)

<table>
<thead>
<tr>
<th>Driving Mode</th>
<th>Hydro Carbons (HC)</th>
<th>Carbon Monoxide (CO)</th>
<th>Carbon Dioxide</th>
<th>Oxides of Nitrogen (NOx)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Idling</td>
<td>1.34</td>
<td>16.19</td>
<td>68.35</td>
<td>0.11</td>
</tr>
<tr>
<td>Accelerating (0 to 15 mph)</td>
<td>536.00</td>
<td>2,997.00</td>
<td>10,928.00</td>
<td>62.00</td>
</tr>
<tr>
<td>Cruising (15 mph)</td>
<td>5.11</td>
<td>67.36</td>
<td>374.23</td>
<td>0.75</td>
</tr>
<tr>
<td>Decelerating (15 to 0 mph)</td>
<td>344.00</td>
<td>1,902.00</td>
<td>5,241.00</td>
<td>21.00</td>
</tr>
</tbody>
</table>


The existence of old technology vehicles plying on the roads in Asansol subdivision is expected to further aggravate the situation.

7.5.4 Combustion of Coal

Coal is easily available in this area so, open air burning of coal is widespread. A section of the unauthorized miners burn coal to reduce ash and volatile matter contents before selling it. Combustion of coal produces particulate emissions, oxides of nitrogen, oxides of sulphur and carbon dioxide. Coal is also widely used as a domestic fuel in this belt. (Table No. 7.5.4).

Table No. 7.5.4.
Type of Fuel used in Asansol Subdivision

<table>
<thead>
<tr>
<th>Cooking fuel</th>
<th>No. of households</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooking gas</td>
<td>302</td>
<td>22</td>
</tr>
<tr>
<td>Electricity</td>
<td>23</td>
<td>2</td>
</tr>
<tr>
<td>Kerosene</td>
<td>21</td>
<td>2</td>
</tr>
<tr>
<td>Coal</td>
<td>980</td>
<td>69</td>
</tr>
<tr>
<td>Fire Wood</td>
<td>30</td>
<td>2</td>
</tr>
<tr>
<td>Others</td>
<td>25</td>
<td>2</td>
</tr>
<tr>
<td>Not Reported</td>
<td>19</td>
<td>1</td>
</tr>
</tbody>
</table>

Plate 17: Open air burning of coal contributes to air pollution at Searsole, Raniganj.

Plate 18: Solid waste disposal site adjacent to the bypass road at Asansol City.
Plate 17: Open air burning of coal contributes to air pollution at Searsole, Raniganj.

Plate 18: Solid waste disposal site adjacent to the bypass road at Asansol City.
From the table it is evident that 69 percent of the population use coal as fuel for cooking.

7.5.5 **Sponge Iron Factory Pollutants**

The recently established sponge iron factories in Raniganj have become a nightmare for the residents in the adjoining areas. The carbon monoxide, sulphur and nitrogen oxide emissions from the industry are dreaded by the local inhabitants. The ill effects of the contaminated environment have manifested themselves in the form of host of health problems. The coal particle laden smoke emitted by the units is thick enough to cause many problems. The unchecked pollution has begun to take its toll on the flora. Moreover, with toxic dust of coal, iron ore and dolomites have polluted the local ponds and wells.

7.5.6 **Air Quality Management**

Thus it can be said that urban air of Asansol is significantly polluted. So, urban air quality management system including air quality monitoring network, emission inventories, air quality standards and public information bands is imperative. A range of cost-effective pollution control policies and measures together with resources and powers to impose them should also be included in the air quality management system. It should be borne in mind that all of these components form part of an integrated system. If inadequate attention is given by the authorities to one component, it is likely to result in the limitations in the effectiveness of the entire system.

7.6 **SEWERAGE**

A well laid out sewerage system is one of the basic requirements for ensuring proper liveability in an urban unit. In addition to the creation of good ambience, it also contributes towards healthy living.

7.6.1 **Inadequate Sewerage System**

This region is characterized by total absence of well laid out sewerage system.
In 2001, only 4.3% of the total households of Asansol city had access to conventional sewerage system. Raniganj is characterized by 0.50 km of underground sewer only. Kulti and Jamuria on the other hand have little or no sewerage system. Rural sector is characterized by total absence of sewerage system.

7.6.2 Waste Water

The urban centres are also characterized by little or no waste water treatment plant. So, untreated sewage is discharged into the water channels which ultimately drain into Damodar, Ajay and Barakar courses. Chittaranjan, Hindustan Cables Town at Rupnarayanpur, Burnpur and the residential areas of ECL and BCCL employees have a well laid out sewerage network.

7.6.3 Drainage

There exists no underground drainage in the corporation and municipality areas except for the areas developed by the industrial houses like IISCO, CLW, HCL, BSW and mining concerns like ECL and BCCL. So waste water is carried through open rectangle type masonry or non-masonry drains. These drains meet the outfall drain which finally empties into the river courses without any proper treatment.

7.6.4 Upgradation Required

Upgradation of the overall existing drainage and foul sewerage system by the local administrative bodies is the need of the day. Such measures should include:

* Laying down a network of sewerage and drainage network.
* Improvement in existing surface drainage.
* Establishment of sewerage and drainage treatment plants.
* Provision of new surface drains.
Plate 19: Improper drainage in Asansol City – a common site throughout.

Plate 20: Scarcity of water leading to long queue awaiting water supply from public distribution system in Narsingbandh, Burnpur.
7.6.5 Lack of Vision and Planning

The total lack of underground sewerage and drainage system, absence of treatment of the waste water in the urban tract except those developed by the industrial and mining concerns exhibit the lack of vision and proper planning of the authorities. This facet of urban problem requires immediate attention in view of the danger of contamination of drinking water from these uncovered drains, thus endangering the health of the inhabitants.

7.7 SOLID WASTE DISPOSAL

Population growth, increasing urbanization and increased consumerism have all contributed to an increase in both the amount and variety of waste generated in the urban centres. Furthermore, these urban units lack effective solid waste disposal system.

7.7.1 Municipal Waste

The Municipal wastes apply to those wastes generated by households and to wastes of character derived from shops, offices and other commercial units. Per capital waste generation varies between 2.75 and 4.0 kg per day in high income countries, but is as low as 0.5 kg per day in low income countries (Santra, 2001).

The total solid waste generated in Asansol is 150 tonnes per day comprising of hospital and municipal waste. According to Asansol Corporation total solid waste expected to be generated in Asansol by the year 2010 is about 300 tonnes per day. The wastes are dumped at two locations on either side of by-pass road (parallel to NH2).

Raniganj municipality too produces 150 tonnes of solid waste. The municipalities of Kulti, Jamuria and Raniganj dispose the solid waste into abandoned pits and also use them to fill up low lying areas.

7.7.2 Bio-Medical Waste

Biomedical waste refers to any waste that included anatomical waste, pathological wastes, infectious wastes, waste generated in health care facilities and medical laboratories. Ministry of Environment and Forests
(MOEF) recommends segregation, identification, handling, storage, decontamination and transportation. In this region biomedical wastes are collected and transported separately. Such wastes are disposed in burial pits. No segregation at source is made.

### 7.7.3 Sources of Pollution

Absence of treatment of solid waste prior to disposal and non-segregation of biomedical waste at source is a matter of grave concern as it leads to air pollution and contamination of surface water sources.

### 7.7.4 Dismal Situation

The dismal situation of solid waste collection, transportation and disposal with no provision for treatment of municipal non-biomedical waste signifies the inefficiency and lack of knowledge of the administration regarding implication of dumping untreated waste in open fields. The dire consequences of such practices on health by spurt of vector borne diseases and contamination have failed to draw due attention.

### 7.7.5 Municipal Act, 1993

The urban centres immediately require establishment of solid waste treatment plants, which will contribute towards efficient solid waste management of this belt. Moreover, the 74th Amendment and the West Bengal Municipal Act 1993 make the municipalities responsible for Solid Waste Management (SWM). They provide for the functions of collection, removal and disposal of solid waste. This wording is probably sufficient for them to carry out the function singularly or jointly with other local authorities.

### 7.8 SLUMS AND SQUATTERS

In the recent past the urban tract of Asansol subdivision has witnessed the proliferation of slums and squatters. These are the problem
areas of the urban units and have become a serious issue for the urban planning body.

7.8.1 Definition of Slum

According to Slum Area (Improvement and Clerance) Act, 1956 enacted by the Government of India, slums have been defined as those areas where buildings are in any respect unfit for human habitation. Physically, slums consist of clusters of hutment comprising of several rooms constructed with temporary building materials, where each room is inhabited by a family sharing a common latrine, without arrangement for water supply, drains, disposal of solid waste and garbage within slum boundaries. Apart from degrading environmental conditions, slums are also characterized by almost total absence of community and recreational facilities hindering mental development of the young.

7.8.2 Safe Heaven

Therefore, slums of this belt are the marginal areas of corporation and municipalities. Such areas are characterized by poverty, deprivation, illiteracy and water-logging during the rainy season. Such pockets like Dharampr, Rahamatnagar of Burnpur and Jhingri Mohalla, Kashai Mohalla of Asansol have become safe heaven for noted criminals and anti-socials (field observation).

7.8.3 Impediments

The problem of slum growth within urban areas has drawn attention of town planners everywhere. Social economic and historic reasons together with lack of foresight, disability and ineffective resources, handling on the part of urban administration have contributed towards growth of slums. The fact remains that slums exist in most Indian cities and their continuing existence is disquieting to the civic sensibilities of urban residents. The health and harmony of urban communities are threatened by the presence of slums and as such to deal with this problem is a challenging task for the town planning organizations.
Plate 21: Squatters are conspicuous in Burnpur.

Plate 22: Water logged (due to improper drainage) Hapless slum – dwellers at Chelidanga, Asansol.
The urgent necessity of improving existing slums is widely accepted as a general idea, the precise mechanism for achieving this objective remains disputed. Measures to remove, relocate and rehouse slum dwellers have been tried and these have frequently failed. Legal, social, economic and cultural complexities are so interwoven into the tenureship and life-pattern in the slums, that an alternative arrangement, satisfactory and acceptable to the people concerned is hard to come by. Thus slum rehousing apart from the tremendous costs involves, is difficult to enforce.

7.8.4 Approach to the problem

The other approach to the problem of slums is not to interfere with individual choice in the matter of location and mode of residence, but to create healthy and liveable environment. Years of neglect have created tremendous backlogs in the provision of basic civic amenities in the slum areas. Provision of paved lanes, proper drainage and water supply, the sanitary disposal of nightsoil and domestic wastes, street-lighting etc. are some of the measures that could immensely improve the quality of life in slums and instill a sense of dignity and well-being amongst the slum-dwellers.

7.8.5 ADDA Report

According to ADDA report, 13 percent of the total population of Asansol subdivision lives in slums. Jamuria has the highest percentage (43%) followed by Kulti (20%), Asansol City (19%) and Raniganj (7.2%) living in slums. It may, however, be noted that Jamuria is by far in a bad shape in so far as the living conditions is concerned as 43% of its population live in slums.

7.8.6 Present Approach

The current approach regarding slum is therefore taking short term measure for improving their environmental aspects or in other words slum modernization. Various schemes like improvement of drainage system, construction of individual and community toilets, improvement of roads, providing shelter for the homeless, providing drinking water in the slum area
have been undertaken for improvement of slums by the concerned authorities.

7.8.7 Unauthorized Settlement

Squatters can be noticed in and around railway stations, bus terminus, court compounds and small scale factory sites in and around the urban centres of this region. Businessmen use these squatter population for cheap labour, officials use this illegality to extract bribes and politicians exchange promises of improvements for votes (Mc Auslam, 1985). Local authorities have turned to oppose such settlements but, these are essential where government cannot fulfill the housing requirement. Such degraded areas prove to be (Turner, 1967) breeding grounds for delinquency.

7.8.8 Accommodation for Migrants

Both slums and squatters provide the initial accommodation for the migrant population, coming from neighbouring states and districts as well as distant corners of the country. According to ADDA report about 24.9 percent of the population has migrated from within the country while 0.1 percent of the population has migrated from Bangladesh, Pakistan, etc.

7.9 TRANSPORT PROBLEM

Urban vehicular growth closely follows the trend of urbanization. Motor vehicles offer undeniable advantages such as speed and convenience, indeed during the early stages of development of a city, motor vehicles are vital to economic growth. However, the costs of increasing dependence on vehicles in this belt are becoming all too apparent. These include maintenance of roads, clogged congested streets that undermine economic productivity, high levels of energy consumption along with its economic and environmental costs, worsening air and noise pollution and traffic accidents.

7.9.1 Importance of Transport

Development of an economy is dependent, among others, on the growth of its system of transport. The ease and rapidity with which goods and
people can flow between two areas also determine the volume of trade and migration as also the degree of interdependence between regions (Bhaduri, 1992).

7.9.2 Problems Identified

National Highway (NH2) or G.T. Road traverses through the study area. It is the major linkage through which maximum numbers of vehicles ply. So, the problems with regard to NH2 requires due attention. According to a Report on Traffic and Transportation Study by District Planning Committee the following problems can be identified:

(i) All transport companies are located near the roadside truck terminal on G.T. Road. Space available for loading and unloading of goods is very less. No storage facility or any other infrastructure is available at this place. Truck movement during day time severely affects the traffic flow on Grand Trunk Road (G.T. Road or NH2).

(ii) Court area along with other administrative offices attracts a lot of traffic. Narrow carriage way, lack of parking facilities, high volume of slow moving traffic and pedestrians have drastically reduced speed in that area.

(iii) Narrow carriage way width coupled with high volume of pedestrians have left no scope for 3/4 wheeler movement in majority of the station market roads. Few roads that are still open to traffic have been strained to capacity.

(iv) Automobile service or repair shops, with inadequate parking facilities for heavy vehicles along the G.T. Road between station road junction to Kalla road junction causes nuisances to the traffic on G.T. Road or NH2.

(v) With only one major north-south link (Burnpur road plus Kumarpur link road), north-south connectivity is soon going to be an issue of concern. Kalla road and Dhadka road which are the other two north-south link roads are severely constrained by tunnels under the existing Eastern Railway main line.

(vi) Lack of proper geometrics has resulted in under utilization of junction capacity. Some junctions have crossed warrants for signalisation and
need improvement measures to make complete use of the scarce road space.

(vii) Lack of proper east-west corridor in the southern side of NH2 (G.T. Road) is putting more pressure on G.T. Road. Narrow bridges, encroachments and non-geometric junctions reduce the capacity of G.T. Road resulting in under utilization of the road capacity.

(viii) Lack of organised bus or minibus terminal in the city has increased indiscipline of privately operated mini or big bus operators. Although routine bus stops exist, buses stop all along the G.T. Road to attract passengers, thus ignoring the traffic rule.

(ix) Severe traffic holdups occur near Barakar, Begunia More at the West Bengal Jharkhand border.

7.9.3 Other Problems

In addition to the problems of NH2 there occurs shortage of (a) wide link roads, (b) footpaths for smooth movement of the pedestrians, (c) ill maintenance of roads and lanes, (d) absence of speed breakers, (e) lack of installation of traffic signaling system in the major link roads at regular intervals. Such a picture can be observed throughout the study area, (f) Domohani, Kalla, Churulia and other remote colliery settlements lack the service of standard buses. Commuters are subject to long waiting periods due to infrequent trips by public transport in some routes. Punjabi More in Raniganj, Niamatpur and Sitarampur in Kulti.

A wide two-lane by-pass road parallel to the NH2 has been constructed to relieve the traffic load on the city of Asansol and the main transport nodes like Raniganj, Niamatpur, Sitarampur, Kulti, Barakar etc. But all in vain, the problem of traffic congestion still persists.

7.9.4 Traffic Management and Engineering Measures

This belt is in need of implementation of traffic management and engineering measures recommended to streamline the traffic in some critical areas as well as other general improvement measures like:
By-pass of NH2 should be widened to four lanes with footpath and median all along the section and limited median breaks and pedestrian crossings.

Bus bays to be provided on both sides of NH2.

The junction geometrics at the junction of major roads should be improved.

Re-aligning some of the roads to combine two adjacent junctions into a single junction.

Construction of bus, minibus and truck terminals.

Thus, it may be said that in order to augment the pace of development of this region, efficient traffic and transport management is essential. Therefore, efficiency and ease of transport should be emphasized by the concerned authorities.

7.10  UNEMPLOYMENT

According to government nomenclature of an employed, a person working 8 hours a day for 273 days of the year (Datt and Sundharam, 2002) is regarded as employed on a standard person year basis. The unemployment problem in this belt has brought about untold misery to a particular section of the society.

7.10.1  Unemployment Scenario

Congruent with the national scenario (106 million are unemployed in India), the problem of unemployment looms large in this sub-division as evident from the large number of non-workers. According to employment exchange of Asansol, the number of enrolled unemployed rose from 59,029 in 2000 to 65,925 in 2005. There are two other employment exchanges in this belt, one at Sitarampur in Kulti and Raniganj. There also exists chronic underemployment in this belt.

7.10.2  Causes of Unemployment

The causes of unemployment are:
(i) Sickness of major public sector units.
(ii) Closure of some of the factories and mines.
(iii) Abolition of quota system of recruitment.
(iv) Stoppage of fresh recruitments by existing manufacturing and mining sector.
(v) Swelling of the number of unemployed by immigration (Misra, 1992).
(vi) The aforementioned factors have culminated in the gradual reduction of manpower in the major industries.

7.10.3 Reduction in Manpower

The declining trend in the manpower of IISCO Ltd. is apparent from the trend line by the Time Series analysis of manpower figures from 1994 to 2004. Policy to decrease manpower by Voluntary Retirement Scheme (VRS) and causing fresh recruitment has produced a gloomy effect on the local job market. Local inhabitants who are unable to seek employment in other states or districts of the country due to various reasons had pinned their hope in securing job in this major Iron and Steel industry. Thus, the policy of reduction in manpower strength to enable the factory to switch over to a capital intensive mechanized operating unit has proved to be a fatal blow to the local population. (Fig. 29)

If the same trend continues, manpower will decline to 8,388 persons by 2010. This will further emanate despair among the job seekers in future.

7.10.4 Decline in Coal Production

Coal production by Eastern Coalfields Limited has recorded a declining trend over the years (Fig. 30). The following reasons can be attributed like (i) exhaustion of old mines, (ii) problems in opening of new mines and projects, (iii) poor availability of power, (iv) problem of industrial relations, (v) changed socio-political situation, (vi) difficulty in procuring land. It was referred to the Board of Industrial And Financial Reconstruction (BIFR) in 1994 and was declared sick.

According to the guidelines of BIFR, ECL has adopted such measures like outsourcing, developing patch mines, setting out targets for the
Declining Trend in Manpower
Of
Indian Iron and Steel Company Ltd.

Y_c = 15830 + (-676.59) * X

Source: Indian Iron and Steel Company Ltd., Burnpur.

Fig. 29
Trend Analysis of Coal Production of Eastern Coalfields Ltd. 
Time Series Analysis (3-year moving average) 1994-2004

Source: Central Mine Planning and Design Institute (CMPDI), Asansol 
Fig. - 30
collieries regarding coal production, ways and means of encouraging the management to achieve target production; the reflection of which one can observe in the rise in production in 1995 and 2001. But such measures have failed to escalate production throughout the time period from 1994 to 2004. So trend line by moving average method shows a decline.

According to the guidelines of BIFR, ECL has adopted as a number of policies to overcome the loss incurred every year. The reduction of manpower by stopping fresh recruitment, abolition of quota system has had a great impact on the job prospect for the local youth.

Job aspirants who have been born and brought up in the coalfield environment and those who lack adequate educational qualification and belong to economically and socially less privileged strata are dwelling in sheer despair. Being hopeless they have become vulnerable to illegal activities like unauthorised rat hole mining in the abandoned collieries at the risk of their own life.

7.10.4.1 Quota System

In the early days, both ECL and IISCO Ltd. had a provision by which any one member of the family of a retired employee was entitled to get a job. This system was abolished to shed off the huge manpower, an encumbrance for the sick company. On the other hand, such a policy led to shrinkage of job opportunities for the local inhabitants.

7.10.5 Rural Sector

In the rural sector agriculture being the remunerative and loss of cultivable land due to land degradation have lessened the prospect of creation of employment opportunities in agriculture associated job. Moreover, the present generation in the rural sector of this belt has developed lack of interest in agricultural activity. A section of youths have developed an aptitude for quick and easy access to financial well-being, which has diverted their attention towards mining and industrial sector. Such an attitude has further escalated the employment problem.
7.11 CONCLUSION

This subdivision suffers from the maladies of urbanization and stagnation of rural sector. In addition to other problems frequent power failures plague the residents. Noise pollution is also a menace of urban life in Asansol subdivision. In addition to its health impact, noise is a serious problem in many schools, hospitals that face heavily trafficked roads. The Eastern Railway hospital and Asansol Public School in Asansol city are located on NH2 and adjacent to Asansol market. Thus the very location has exposed these units to noise pollution.

In conclusion it can be said, that the problems are manifold and the solution lies only in the present framework of our urban and rural society, administration and technological knowhow and utilization of resources. The local planning body should endeavour to improve housing, drainage, sewerage, sanitation, shortage of power, transport routes, quantity and quality of water supplied, solid waste disposal and enforcement of emission norms by the industries and mines and decreasing job opportunities. The local bodies should also implement the measures outlined in Ganga Action Plan according to which control of pollution of river Damodar has to be achieved through improvement of sanitation by constructing low cost toilets and solid waste management by providing transport fleet, dumper, equipment for handling garbages.

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