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# MIRZAPUR HEALTHY CITY PROJECT

## Report on Action Research

**Supported by**
**Ministries of Urban Development & Poverty Alleviation and**
**Health & Family Welfare, Government of India**

**and**

**Sponsored by**
**World Health Organisation, New Delhi**
**Vide APW with Sticker No. IND PHE 004 SE/00/240802**
**(Product 2, Activity 2)**

**National Institute of Urban Affairs**
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# PREFACE

The Healthy City concept is a worldwide movement for building a lobby at the local level to promote city-based health initiatives for improving environmental hygiene. The application of the Healthy City concept to a city takes the form of a Healthy City Project that aims to reform deteriorating environmental conditions. The Healthy City Project was conceived by WHO in January 1986 in Copenhagen and was widely practiced in several European cities, many of which contribute to the Healthy City NETWORK today, supported by WHO, to share experiences of success and learn from each other's failures. The Healthy City Projects are not just based on any one single or stereotyped effort, but are a collective outcome of a range of innovative strategies developed by people from all over the globe to resolve public health problems.

In India the Healthy City Projects were started in the early 1990s. They were initially promoted in the metropolitan cities of Kolkata, Mumbai, Delhi and Bangalore. Subsequently the concept is now being practiced even in the smaller cities of Kottayam (in Kerala) and in Mirzapur (Uttar Pradesh). This report gives the details of the work that has been completed in Mirzapur in the past two years. But the project is an ongoing project and much remains to be done. Moreover, as mentioned above, Healthy City initiatives are a collection of efforts. Hence actions are undertaken at several levels and locations within the city and over a considerable period of time. This report is, therefore, not a comprehensive whole, but a fragmented documentation of the base work that has begun to develop the Healthy City Plan.

The objectives of the Healthy City Projects are manifold. Of topmost importance is advocacy. The aim is to create a general awareness towards improving environmental hygiene that will reduce the disease burden in cities. The focus of the projects is to attain a healthy status through community participation and through public-private-community partnerships to support good governance. The ultimate goal of the projects is to develop Healthy City Plans and foolproof monitoring systems to sustain project activities. However, the approaches to do so are many.

The Healthy City Project of Mirzapur was begun in September 2000, with a reconnaissance survey to understand the city and to take stock of available data and information to develop the project. Care was also taken to learn about the administrative responsibilities of the different sectors of development and management within the city. It was important to know who takes care of what in city management.

Subsequently, a Brainstorming Workshop was held, inviting district and city officials and knowledgeable city elders to discuss the city problems with regard to public health management and the disease burden. Local politicians were also requested to participate. The citizens of Mirzapur welcomed the Project enthusiastically. With the need assessment done during the workshop, it was decided to begin the project activities by assessing the existing city conditions. Once the draft papers were written and the gaps in development identified, a Local Task Force Workshop was held to form a Healthy City Steering Committee that would monitor the progress of the project. Several Task Force meetings to proceed with the work followed the workshops. Details of the project activities were decided in these meetings, for which sub-committees were formed to steer the activities.

Of the activities designed for Mirzapur, advocacy campaigns were done to spread the message of healthy living, details of which are given in the text of this report. A Guide Atlas for planning for Healthy Cities has also been developed, with the help of the GIS database prepared by the Institutional and Community Development Project (ICDP) of the Ganga Action Plan. However, the data had to be supplemented by a quick survey of households to find out about the diseases/illnesses people suffer from in the city. The Atlas is a separate publication by itself.

At present location-specific activities to upgrade environmental conditions are being carried out for different "settings" like the improvement of sanitation in schools, cleaning of "ghats" on the river front, guarding of trees already planted by the municipality and/or the State Forest Department, etc. A "setting" is a physically defined area, with special characteristics, where people live and work. In the Healthy City context, a "settings" approach is used when resources are scarce and the entire city cannot be attended in total.

As mentioned above, Healthy City activities are not just a one-time phenomenon. They are a continuous process that requires meticulous monitoring. Moreover, the project principles adopt a system of action-research, whereby action on the field is recorded as a part of the plan formulation. The process follows a trial and error method, which though lengthy, is a sure way of innovating strategies that will work under local conditions. However, since standards can vary with time and location, a city is considered to be healthy, as soon as efforts towards such planning begin. In that context, Mirzapur can be called a Healthy City.

This report is just the beginning of an effort being made to develop a Healthy City Plan for Mirzapur. As mentioned, some of the initial steps have been completed, such as formation of a Steering Committee, the status reports of the priority sectors of improvement for need assessment, the campaigning, the guidelines for planning, along with several LTF meetings, etc. At present we are trying to promote the "settings" approach for improvement. The process of planning is still in its nascent stage of development. Ultimately, each utility service will have to be upgraded to improve public health conditions and environmental hygiene. Part of the area-level management process can be found in the Guide Atlas. Our next step would be to train the trainers, who in turn would train the grassroots level workers to mobilise the community to monitor healthy city activities, in order to reduce the disease burden.

Any "action-research" has to be tuned to the political conditions and the culture of the place. To integrate interventions with the existing culture/system takes time. But it can be said that planning for a Healthy Mirzapur has begun. Let us hope that some day this small town in eastern Uttar Pradesh will be the role model for many Healthy City Projects in India.

At the National Institute of Urban Affairs, New Delhi, the tasks of coordinating the project, as well as report writing, fell on Dr. Madhusree Mazumdar, Senior Research Officer. Mr. Naveen Mathur, Junior Research Officer at NIUA, assisted her in these efforts, all through the project activities.

The Status Papers were written by a team of State and local government officials and knowledgeable citizens, establishing the first and foremost partnership in the process of Mirzapur Healthy City planning, between the government and the community. We are grateful to each and every member of the team for his/her kind cooperation and contribution.

Dr. Neela Mukherjee of Development Tracks RTC (New Delhi) gave her expert advice on participatory learning techniques from time to time and contributed generously to the Brainstorming Workshop. We are very grateful to her for providing her services to this project.

A special mention will have to me made of the ex-ICDP staffers who helped at practically all the stages of the Healthy City Project work, including primary data collection, processing of quantitative data, helping to organise workshops and meetings and giving all secretarial assistance. The ICDP Office, which is part of the municipality, gave shelter to the Healthy City Project. Today, all records of the project are maintained in this office. Special thanks should go to Mr. S. K. Relan (the ICDP Team Leader) and his colleague, Mr. Akshaibar Pal, for their concerted efforts in giving a berth to the project in their office. But for their help, the project would not have begun.

This project also appreciates the contributions of the political leaders and the State and district officials. The Chairman of the Mirzapur Nagar Palika Parishad, Shri Gopal Das Chunahe and the then Honourable MLA of Mirzapur, Dr. Sarjeet Singh Dang personally took interest in initiating the project. The project was welcomed by the Vindhyachal Divisional Commissioner, the District Magistrate of Mirzapur and the Chief Development Officer of the district. We also owe our gratitude to Prof. Milan Bhowmik, the then Director of the Ghanshyam Binnani Academy of Management Sciences for his expert opinion.

The Healthy City concept propagates the convergence of development projects. Therefore, instead of "re-inventing the wheel" the Healthy City Project of Mirzapur took advantage of the Geographical Information System developed by the Institutional and Community Development Project of the Ganga Action Plan. This was an Indo-Dutch project that had developed a very strong database for the Mirzapur Nagar Palika Parishad in 1996. We are grateful to ICDP for creating such a database for planning, monitoring and administration and to the Chairman of the Nagar Palika Parishad for giving us the permission to use it.

Last, but not the least is the sanction and support given by the Ministries of Urban Development and Poverty Alleviation, and Health and Family Welfare of the Government of India. The project was sponsored by the World Health Organisation's country office. We are grateful to both the ministries and to WHO for helping us to steer the project and for the funding.

Dr. Vinod K. Tewari
Director

Date: 5 February, 2003

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# MIRZAPUR HEALTHY CITY PROJECT

## SECTION I

## THE HEALTHY CITY CONCEPT

## The Healthy City Concept

The Healthy Cities Project is a worldwide movement of city-based public health initiatives for improving environmental hygiene. It is not just the result of any single effort, but a collection of discoveries made by people from different countries, on how to solve public health problems. The entire effort is directed towards building a lobby at the local level to initiate public health improvements into the planning process. The concept tries to include health as a development activity in the planning agenda and to introduce a participatory approach to deal with the environmental well being of the people who live and work in urban areas.

The rationale for focusing on public health in cities and towns is because of the rapid urbanization that is taking place globally, as a result of which environmental conditions are deteriorating. It is usually caused by an overuse of both natural and man-made resources, including infrastructure and utilities. While the age-old public health hazards like unsafe food and water, microbiological contamination of the environment and the overall poor sanitation and inadequate environmental hygiene are still prevalent, there is an increasing fear that rapid urbanization and industrialization will generate new environmental problems (Werna et al: 1998) that will be harmful for people. It is also apprehended that these problems will threaten the global ecosystems, as also health conditions, which will further lower the quality of life and impact negatively on economic productivity and human welfare. There is, therefore, a growing concern to prevent the ecological imbalance that is being created through an indiscriminate use of resources. However, modern management practices believe that such conditions can be overcome through an optimal use of the available resources and therefore suggest a bottom-up approach to planning, whereby communities can plan for themselves within their limited (available) means.

According to the *Human Development Report 2002*, 47.2 per cent of the world's population lives in cities. The developed countries (with high human development) have more than 78 per cent of their population living in urban settlements, while the developing countries score around 40.0 per cent. It is expected that by the year 2015, 53.7 per cent of the total world population will become urban. India has around 285 million people living in urban areas, out of a total Indian population of about a billion. It is estimated that by the year 2015, 35.9 per cent of the total population will be living in cities. But given the large base of the Indian population, the absolute urban population of India will, in fact, be larger than the total population of many European countries put together. Moreover, of the total urban population of India, 37.8 per cent is concentrated in the 35 metropolitan cities (2001). Such concentration of population along with urban activities, is bound to create environmental and health problems, unless it is countered by good planning and management strategies.

Experience shows that the process of urbanization brings in both positive and negative developments. While productivity increases because of urbanization, cities also face escalating urban problems. Most of the metro cities of India suffer from acute shortages of housing, social benefits and utilities. Between 1990-96, only 46 per cent of the urban population of India had access to sanitation (World Development Report: 2000/2001). Even in a city like Delhi, which by virtue of being the national capital receives special attention, sewerage covers only 40 per cent of what is required, while regular waste collection is only 77 per cent (NIUA: 1998). In a developing country these discrepancies tend to polarize in the low income residential neighbourhoods that deteriorate into slums and become prone to poverty of all kinds: like low income, insufficient food, lack of education, poor health, insecure tenure for housing, insanitary conditions, unsafe working conditions and what have you. Practically every metropolitan city in India has 30-40 per cent of its population living in these slums. Such living conditions cause widespread health problems ranging from communicable diseases and malnutrition to mental illness and chronic respiratory diseases. Every type of human misery from crime to drugs to epidemic diseases finds fertile grounds in the city and in the peri-urban slums (Werna et al: 1998). References in books reveal that such conditions are not uncommon even in the developed countries, though the intensity of the problem may be much less. It is to address such urban problems that the Healthy Cities Project was mooted. In fact, the project was begun to improve European cities!

The WHO Healthy Cities Project is based on the belief that living and environmental conditions are both responsible for health problems. Hence, a major thrust of the project is to promote sound ecological principles like minimum intrusion into the natural state, maximum variety, developing as closed a system as possible and maintaining an optimum balance between population and resources (Werna et al: 1998). Ultimately, the initiative aims to improve the physical, mental, social and environmental well-being of the people who live and work in urban areas. Given the fact that environmental deterioration occurs in places where people live and work in close proximity, the principle of improving health through modification of physical environment and socio-economic conditions are being proposed for cities, along with the need to incorporate integrated management and development of settlements. This can be most conveniently maintained at the level of the local government. Hence, local action and community participation is being proposed, which in conceptual parlance is referred to as a "setting". This "setting" can be further divided into sub-sets, to facilitate micro-level planning and management.

The healthy city concept, therefore, initiates a process of taking care of environmental hygiene. It is not just an outcome. A healthy city is not necessarily one that has achieved a particular health status. It is the gaining of a consciousness for health improvement as an urban issue.

## History of Project Development

The Healthy Cities Project was conceived in Copenhagen in January 1986. The original idea was to develop *local action plans* for health promotion, based on the Health for All principles of the WHO (1981). It could be said that the project is a rebirth of the Health of Towns Association of Exeter, which was formed in 1844, as a reaction to the threat posed to public health by industrialization and rapid urbanization soon after the Industrial Revolution in Europe. In those days the poor in Europe were living in appalling insanitary conditions, in crowded slums that were vulnerable to epidemic and infectious diseases, where the government was reluctant to introduce reforms. Hence the Health of Towns Association was formed to pressurize the government to reform the deteriorating conditions. The so called "sanitary idea" that emerged from it, brought the realization that overcrowding, inadequate sanitation and the absence of safe drinking water and food could create conditions under which epidemics thrived. The response to

it was, therefore, seen to lie in good housing standards and hygiene regulations, paved streets and publicly funded water and sewerage systems. Measures that flowed from the "sanitary idea" were:

- legitimacy of working locally
- resourcefulness and pragmatism
- humanitarianism and a strong moral tone
- appropriate research and inquiry
- recognition of the need for special skills and qualifications
- need to focus on positive health
- value of producing reports on the state of health of the population
- populism
- health advocacy
- need for persistence and working with trends
- need for organization
- recognition that public health needs to be the responsibility of a democratically accountable body, and
- inter-sectoral coalition to work for public health (Ashton: 1992).

In time to come, the "sanitary idea" matured into "public health concern", with a focus on environment. It continued as a major influence in public policy until the end of the nineteenth century, when the germ theory of diseases introduced a shift in emphasis to immunization and vaccination. So, from environmental action, the focus became personal prevention. Subsequently this era was superseded by therapeutic treatment (from 1930s) with the advent of insulin and sulfonamide drugs. However, the therapeutic strategy was being increasingly challenged by the benefits from primary health care and community development. Experts from UK concluded that the major contributors to health improvement were:

- limitation of family size (which is basically an attitudinal change)
- increase in food supply
- a healthier physical environment
- specific preventive and therapeutic measures (Ashton: 1992).

McKeown in 1976 opined that diseases occurred in people when species strayed too far from environmental conditions under which they evolved. McKeown actually synthesized environmental, personal preventive and therapeutic methods that gradually led to the evolution of the *New Public Health* concept that focused on public policy, individual behaviour and lifestyles in the ecological context, with a focus on holistic health. Subsequently, this *New Public Health* initiative became a **movement** that the WHO promoted, starting with the Alma Ata declaration on Primary Health Care in 1978 and culminating in the Healthy Cities Project in 1986. The target groups for these initiatives have been the poor and the disadvantaged, with the need to reorient medical services and health systems away from hospital care towards primary health care and the importance of public involvement and partnerships between the public, private and the voluntary sectors. Thus the entire concept moved from victim blaming to a more public health approach (Ashton: 1992).

## The WHO Healthy City Project

In the winter of 1985/86 the European office of WHO developed the proposal for a limited health promotion project, involving only 4-6 cities. But subsequently the Healthy City Project was launched at a meeting of 21 cities in Lisbon in March 1986. It started by relating to the strategy of WHO's Health for All (1981) by the year 2000. The underlying intention was to bring together a partnership of the public, private and the voluntary sectors to focus on public health and to tackle health-related problems in a broad way. Many pre-existing strands came together to create this interest and promote the WHO initiative. An agreement was made to collaborate in developing sound approaches to city health. Experiences of Healthy City Projects have mostly been in the developed countries. However, there is a growing interest in the developing countries as well (from the international community), which has been heightened by the 1996 U.N. summit on cities, that emphasized inter-sectoral action at the local level (Werna et al: 1998).

In UK a British network of local authorities with health committees was established soon after the initiation of the Health for All Framework, in 1984. The "network" became interested in the philosophy and framework offered by the Health for All concept. But even though cities were willing to adopt the concept, the medical sector was averse to follow a more social and less medical view of health. However, a conference was held in Toronto entitled "Beyond Health

Care"(to review the progress in public health in the 10 years since the Lalonde Report of 1974 that propagated public health concerns), which shifted the focus from victim blaming to healthy public policies and was picked up by Dr. Ilona Kickbusch for WHO at Copenhagen. The initial intention was to share experiences with each other on a common platform. A multi-disciplinary steering group was convened and the programme was designed for a few European cities (Ashton: 1992). But today it has spread globally to both developed and developing countries, often with interactive networks and websites for different cities, regions and countries.

## Project Objectives

The Healthy City Project is a movement whose focus is equity and social justice in health, and ecological sanity for the planet. However, the focus of the WHO initiative is somewhat programmatic, working around five major elements:

1. The adoption of concepts leading to the formulation of city plans for health which are action-based and which use Health for All principles.
2. The development of models of good practice, which represent a variety of different entry points to action depending on the city's perceived priorities. These may range from major environmental action to programmes designed to support a change in the individual life-style, but would illustrate the principles of health promotion.
3. Monitoring and research into the effectiveness of models of good practice on health and cities.
4. Dissemination of ideas and experiences between collaborating and other interested cities.
5. Mutual support, collaboration and learning and cultural exchanges between the towns and cities (Ashton: 1992).

In order to achieve these objectives, participating cities (in Europe) agreed to undertake seven specific tasks:

1. To establish a high-level inter-sectoral group, bringing together the executive decision makers from the main agencies and organizations within the city. The purpose of this group is to take a strategic overview of health in the city and unlock their organizations to work in unison with each other at every level.
2. To establish an inter-sectoral officer or a technical group, as a shadow to the executive group, to work on collaborative analysis and planning for health in the city.

3. To carry out a community diagnosis for the city down to the small-area level, with an emphasis on inequalities in health and integration of data from a variety of sources including the assessment of public perception of their communities and their personal health.
4. The establishment of sound working links between the city and the local institutions of education, both at the school and higher education levels. Links at the school level can be explored as partnerships for learning and at the higher education level as partnerships for research and teaching. These latter links should not be confined to medical training establishments, but should include any department or institution with an interest in urban health-related phenomena. Part of this work involves the identification of appropriate urban health indicators and targets (based on the Barcelona criteria):
    - that they should stimulate change by the nature of their political visibility and be sensitive enough to punch through change in the short-term, which would be comparable between cities
    - that they should be simple to collect, use and understand, be either directly available now or available within a reasonable time at an acceptable cost
    - that they should be related to health promotion.
5. That all involved agencies should conduct a review of the health promotion potential of their activities and organizations and develop the application of health impact statements as a way to make health promotion potential in different policy areas more explicit. This includes the recognition that within a city there are many untapped resources for health, both human and material.
6. That cities should generate a great debate among themselves involving the public in an open way and which works actively with the local media. This might include the generation of debate and dialogue using interfaces that exist with the public, such as schools, community centres, museums, libraries and art galleries. A city's own public health history is often a powerful focus for debate and learning. Part of this work is the exploration of developing effective health advocacy at the city level.

7. The adoption of specific interventions aimed at improving health based on Health for All principles and the monitoring and evaluation of these interventions. The sharing of experience between cities and the development of multiple cultural links and exchanges underlies this work and is seen as promoting one fundamental goal of the WHO i.e. the promotion of world peace and understanding without which all health is threatened (Ashton: 1992).

The emphasis of all these tasks is on the provision of enabling mechanisms for health promotion to be developed through *healthy public policy and increased public accountability*. It is also the breaking down of the vertical structures and barriers and obtaining a better horizontal integration for working together. Buried within these objectives can be found most of the activities of the local Health of Towns Associations, like bringing together the key players in the cities, establishing a clear picture of health in the different parts of the city, developing advocacy and coalition and building for change, intervention and legislation.

The typical objectives of local partnerships of stakeholders are:

- to create a shared community vision of the future
- to identify and prioritize key issues
- to raise awareness and facilitate community-based analysis of local issues
- to develop action plans, drawing on the experiences and innovations of diverse local groups
- to mobilize community-wide resources to meet service needs, and
- to increase public support for municipal programmes (Werna: 1998).

Local authorities have a particularly critical role in development, not just in planning and management, but also in supporting and encouraging the initiatives and innovations of the other groups within the city.

## The Project Principles

The Healthy City Project should be adopted as per the Health for All principles propounded by the WHO, with regard to public health improvement, equity in the provision of health care services, community participation and collaboration between agencies. The principles to be followed are:

- Equity in the provision of health care services for the protection of the health of every citizen

- Relating personal health and disease burden to environmental health and hygiene, thereby acknowledging that environmental impacts and shortage of utilities or environmental infrastructure can cause ill health
- Encouraging collective efforts through community empowerment to promote environmental health management and improvement
- Creating partnerships in promoting environmental hygiene and health
- Obtaining local government support in providing utilities and improving environmental conditions
- Promoting leadership to implement strategies for health for all and Local Agenda 21
- Using a settings approach in executing health improvement strategies
- Generating internal/indigenous resources to sustain good environmental conditions to prevent health problems
- Considering health dimensions in developing public policy for urban settlements
- Promoting inter-sectoral collaboration to enable many agencies/sectors to work together for health improvement
- Creating networks to learn from each other (derived from different WHO publications).

## The Qualities of a Healthy City

These are generally relative and not absolute, based on the capacity of the local government and the management strategies adopted, such as:

- A clean, safe physical environment of high quality (including housing quality)
- An ecosystem that is stable now and sustainable in the long run
- A strong mutually supportive and non-exploitative community
- A high degree of participation and control by the public over the decisions affecting their lives, health and well-being
- The meeting of basic needs (for food, water, shelter, income, safety and work) for all the city's people
- Access to a wide variety of experiences and resources, with the chance for a wide variety of contact, interaction and communication
- A diverse, vital and innovative city economy

- The encouragement of connectedness with the past and the cultural and biological heritage of city dwellers and with other groups and individuals
- A forum that is compatible with the preceding characteristics and which also enhances them
- An optimal level of appropriate public health and sick care services accessible to all
- High health status (high levels of positive health and low levels of diseases) (WHO: 1997a).

## Project Implementation

Implementing the Healthy City Project involves the creation and adoption of a Healthy City Plan. This involves four related processes:

- linking health status or disease burden to environmental conditions within the city
- gathering information on related fields to assess health problems
- priority setting for intervention; and
- identifying areas for action, and working out the Action Plan.

These processes are sequential and follow in stages:

### Linking Health Status to Environmental Conditions

This is fundamental to any Healthy City Project. It acknowledges that environmental conditions (physical, social and economic) strongly influence human health. Generally physical environmental problems are related to air and water pollution/shortages, land use irregularities, overcrowding and/or congestion, and noise. Social problems include the lack of social support for the vulnerable minority communities like the poor, the migrants, women, children and other specific groups like the mentally challenged or the senior citizens. Economic problems relate to unemployment, job insecurity, low income and lack of access to food and shelter, which are the basic supports to life. However, these three factors are often intertwined. For example, lack of social support can lead to mental disorders that can affect human productivity and reduce income. Financial constraints in turn can hinder good medical treatment, causing morbidity leading to low productivity. Often certain activities happen because of the prevailing conditions, leading to a cause and effect relationship.

Linking of the effects of physical, social and economic environment demands multi-disciplinary research and integrated management. For example, analysis of the health problems (of the poor)

reveals that poor health is not merely the absence or shortage of clean water, a decent house, sanitation and basic services. It also results from despair, anger, fear, worry and insecurity of job and housing. The conclusion is that chronic stress, arising from social exclusion and devaluation as a human being, may be as damaging as the impacts of poor physical environment (Werna et al: 1998).

**Collecting Information**

Information is the lifeblood of the planning process. Realistic decisions and projections for the future depend on information with respect to the existing conditions. Choice of information is critical. It is not always objective, as planning is influenced by purpose and politics. Hence the WHO guidelines have specified the process and types of information to be collected, which should be consultative and explicit. WHO suggests that information gathering should be organized around the following ten questions:

1. What are the important health problems in the city?
2. How do economic and social conditions affect health?
3. Whose support is essential for project success?
4. How does city politics work?
5. How does the city administration function?
6. What are the concerns of the health care system?
7. What part do citizen groups play in city life?
8. How will national and regional programmes affect the project?
9. Will business, industry and labour support the project?
10. Where can information for project development be found (As adapted by Werna et al (1998) from WHO (1995a)).

The information need not always be directly related to health. However, important health problems are to be noted. Health data can be either health service based or population based. Each type of data has its uses. The causes of the major health problems should be looked into.

Both morbidity and mortality data should be collected. This should be done in relation to specific groups/categories. Moreover, as mentioned earlier, economic and social conditions that affect health should be recorded. In fact, all kinds of information, both quantitative and qualitative, are

necessary to make the Healthy City Project work. The data can be collected by using different techniques of gathering information.

The Healthy City Project is not a stand-alone project. It needs political will, community organization, financial resource mobilization and NGO backing (Werna: 1998). Hence details of the nature of city politics, details of city administration, the role played by the citizens and the links with the government are all very important. The issue here is basically of good management procedures with meticulous monitoring. Inter-sectoral linkages are also essential.

**Setting Priorities**

It is to be understood that resources are always limited. The critical element of sustainable development is to make the best use of available resources. Hence, setting priorities to achieve the best possible value of investments is very important. It should be based on considerations of both benefits and costs. Using scarce resources in a way means giving up the opportunity to use them in some other way. Providing benefits in one place means forgoing them somewhere else. Hence careful judgment and analysis is required. Moreover, if priorities are fitted into existing programmes, twin benefits of investments can be enjoyed. Of late, convergence of programmes is being promoted to save wasteful expenditure. However, all this requires rigorous and cautious thinking, leading to effective planning. The WHO guidelines provide methods of strategic planning. Priorities need to be set at all levels: local groups, Task Forces, Steering Committee and the city government.

**Planning for Action**

The uniqueness of the Healthy City Project lies in its Action Research and planning, whereby both analysis of the existing conditions and the implementation of the project go hand in hand. An important component of the Healthy City Plan includes matters relating to the enhancement of local participation in the project through local media, campaigns, community involvement and the like that warrants the development of Information, Education and Communication (IEC) materials based on local conditions. In addition, networking (local, regional, national) or creating awareness at various levels is a key activity.

There is also the issue of identifying the best "setting" for action. This setting could be just a hospital in a small town, an entire city, or even a large region, such as a district. This approach is

specific to Healthy City Projects. In essence it is a concept involving delimitation of the planning area based on the availability of resources.

## The Healthy City Plan

A Healthy City Plan should mostly include:

- a vision for a healthy city
- delimitation of the role of the different sectors of development
- development of an overall health policy that will promote equity and decentralization
- setting up of basic environmental health standards
- monitoring of overall (environmental) health status at city, neighbourhood and district levels, ensuring that intra-urban and intra-district differences are detected
- estimating the contributions made by various environmental and social factors to health problems, using indicators of relationships between health and the living conditions
- analysing environmental and social health needs in various development sectors that are significant for health
- formulation of specific public health and environmental health policies
- advocating, facilitating and enabling health issues to be addressed
- supporting local and regional environmental health service delivery
- supporting the development of research, and
- provision for technical support and guidance.

However, the plan varies between cities, based on priorities.

## The Stages of Development

The development process is an integrated citywide initiative. The WHO guidelines propose four major stages, with three phases of project development and the evaluation of the outcome:

**Getting started**: This is the informal phase of project development. It comprises seven steps, beginning with the process of initiation of the idea and raising awareness through brainstorming workshops and contacting organizations and groups to participate in the process of development. It basically involves the understanding and acceptance of the project ideas to convert them into practical proposals that address realities of city life and help them in gaining political approval (WHO: 1995).

**Getting organized**: This is a building phase to work out a plan-of-action along with the local government. During this phase organizational structures and administrative mechanisms are introduced to provide the foundation for leadership, inter-sectoral action and community participation. This phase, like the previous one, has seven steps. The people, money and information needed for the project are found at this time (WHO: 1995).

**Taking action**: This phase begins when the project has sufficient leadership and organizational capacity to be an effective public health advocate and continues as long as the project lasts. It involves action in six areas, each leading to its own set of results. It covers activities that build support for new approaches to public health and create partnerships with other organizations, resulting in the formulation of healthy public policy (WHO: 1995).

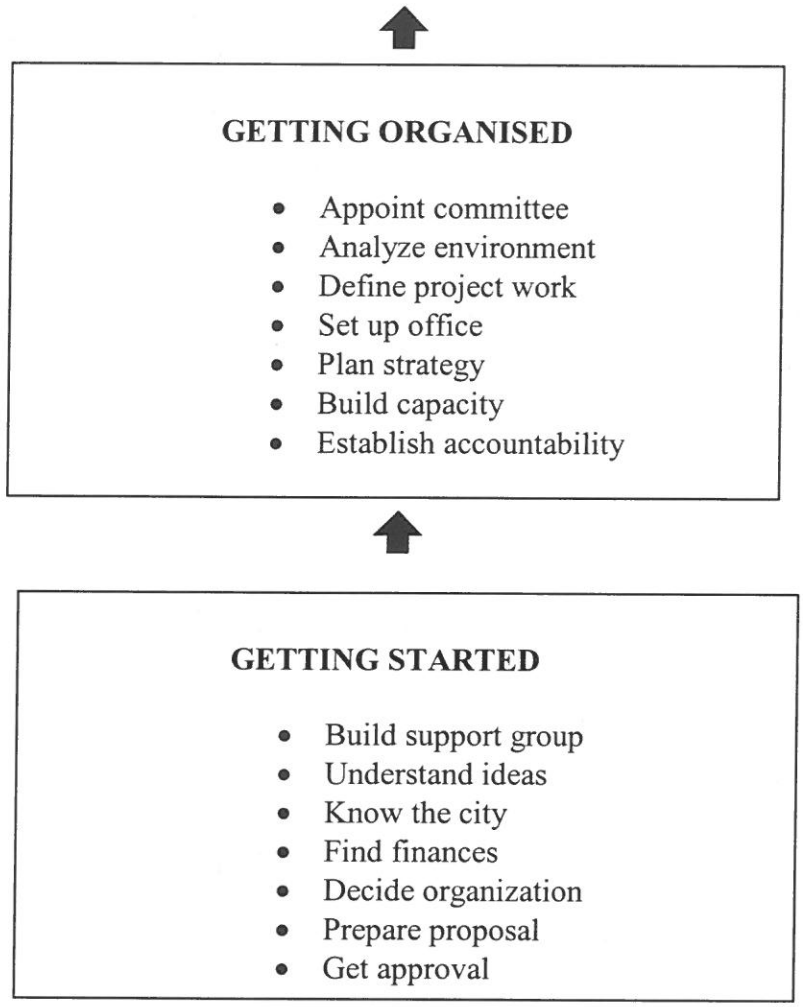
**Evaluation**: Despite all efforts, the projects do not evolve in a continuous and systematic manner. Since the methods are innovative and experimental, they grow by trial and error. Hence there is a need to evaluate the Project impacts through an assessment of the environmental health status and the reduction in the disease burden. This requires very careful methods of judgment, based upon understanding of strategies that have succeeded and by analyzing the health and the quality of life indicators, as well as interacting with the targeted communities, based on their needs and priorities.

As mentioned earlier, all these will have to be done in the context of a "healthy setting" that could be a hospital, a residential neighbourhood, a city ward, a market complex, an entire city or even a whole district. Spatial connotation for environmental health is important, as health conditions change with location characteristics.

**THE STAGES OF HEALTHY CITY DEVELOPMENT**

**TAKING ACTION**

- Increase health awareness
- Advocate strategic planning
- Mobilize inter-sectoral action
- Encourage community participation
- Promote innovation
- Secure healthy public policy




## Networking of Healthy Cities

The majority of the experiences of Healthy Cities Projects have been in the industrialized and developed nations. However, there is a growing interest in the developing countries now, especially after the 1996 United Nations summit on cities, which emphasized action at the local government (municipal) level, with increased focus on poverty. The emphasis of the 1996 World Health Day on creating Healthy City is also a cause for renewed interest.

Since the Healthy City activities started in Europe, the European countries formed national Healthy Cities Networks. The networks were formed to guide healthy city development and to share experiences. The National Networks were developed to create a legitimate platform for change. There are 18 National Networks in Europe, including the Baltic Region and separate

Networks for North America and the states of California and Indiana (USA), Canada, Australia and a host of independent initiatives, including some from the developing countries (e.g. Colombia, New Mexico, etc.), Africa (internet information).

Today over 1000 cities and towns from more than 30 countries of the WHO European region are linked through national, regional, metropolitan and thematic Healthy City Networks. Cities participating in these networks have developed and implemented a wide range of programmes and products including city health profiles, city health plans, strategies based on inter-sectoral cooperation, community development initiatives, programmes that address the needs of the vulnerable groups, lifestyles, environmental health and Agenda 21. The WHO Healthy Cities Network represents a key mechanism for promoting commitment and innovation and is a source of valuable expertise, legitimacy and continuous learning.

A separate network has also been created by WHO to cover all the national networks of Europe, in which each member country can apply after fulfilling the conditions proposed by WHO. It is called the NETWORK. This NETWORK is organized into phases. Every five years, at the start of each phase, a new network is formed and the old one dissolved. The details of the various phases are as follows:

**Phase I (1987-1992)** involved 35 cities in the network of WHO project cities. The accent was on creating new structures to act as change agents and to introduce new ways of working for health in cities.

**Phase II (1993-1997)** had 39 cities in the network, including 13 cities that had not participated in the network in the previous phase. This phase was more action-oriented, with a strong emphasis on healthy public policy and comprehensive city health planning. The Athens conference of June 2000 marked the end of phase II and the beginning of phase III.

**Phase III (1998-2002)** already has 50 cities in the network, with new cities still applying. The overarching goals have been equity, sustainable development and social development, with a focus on integrated planning for health development. Cities are also required to be systematic in their approaches to monitoring and evaluation.

Discussions are currently underway for Healthy Cities **Phase IV**. Further information on this will be available in the Internet.

The **vision** of the NETWORK is to raise and sustain the health and living conditions and to address inequalities of people living in towns across Europe.

The **aim** of the NETWORK is to create a forum for enabling National Networks in achieving the vision of the NETWORK.

The **objectives** of the NETWORK are:

- To enhance co-operation between National Networks and their members.
- To improve communication between National Networks and between cities.
- To raise the quality of healthy cities.
- To raise the quality of National Healthy Cities Networks to the standards of the NETWORK and to encourage the development of new National Networks.
- To provide/develop/disseminate tools for healthy cities work.
- To work in partnership with WHO to influence national policy.
- To form partnerships with other international organizations and bodies.

The **intermediate outcome** is to increase the number of well-functioning Networks, which fulfill the criteria and standard of the NETWORK.

The **overall outcome** is to raise the health and living conditions of people living in cities and towns across the globe.

## SECTION II

## HEALTHY CITY PROJECTS IN INDIA

# The Healthy City Projects in India

The Healthy City project was introduced in India in the early 1990s, starting with a few seminars and workshops for advocacy and awareness at the policy making level. Subsequently location-specific projects were sponsored by WHO for research, training, building databases and development of action plans in different cities and settings. Pilot projects were undertaken with the support of the Government of India and the sponsorship of the WHO. Details of the work done so far for the Healthy Cities Project in India are given Table II.1.

**Table II.1**
**Healthy City/District Activities in India**

| *Location* | *Activities* |
|---|---|
| **Bangalore: 1998-99**<br>KARNATAKA | • Pilot project on awareness for disposal of waste in residential and commercial areas was initiated in six selected wards<br>• Building a database by the Bangalore Municipal Corporation on healthy city parameters and creation of IEC materials for communication |
| **Kottayam: 1998-till date**<br>KERALA | • Awareness programmes<br>• Distribution of health cards<br>• Healthy schools<br>• Healthy workplaces<br>• Healthy hotel contest<br>• Healthy markets<br>• Health camps<br>• Constitution of Health Assemblies<br>• Forming Neighbourhood Associations (for upgradation of health services) |
| **New Mumbai: 1998-99**<br>MAHARASHTRA | • Wholesale market (Turbhe area)<br>• KAP study on participatory approach of communities to adopting healthy habits and hygiene practices in the slums of Mumbai |
| **Kolkata: 1998-99**<br>WEST BENGAL | • Preparation of IEC materials on segregation of waste at source and training of conservancy supervisory staff by the municipal corporation |

| | |
|---|---|
| **Trans-Yamuna Area, Delhi: 1998-99** | • Healthy schools<br>• Healthy markets<br>• Health camps<br>• Awareness campaigns (including street plays, electronic media, hoardings, posters, debates, mobile health exhibitions, etc.)<br>• Steps to reduce disease burden<br>• Pollution prevention<br>• Improved health services<br>• Primary health care |
| **HSMI, New Delhi: 1998-99 2000-03** | • Training in New Delhi, Guwahati, Jaipur, Thrissur<br>• Mayors conference for South East Asia<br>• Healthy Cities Manual |
| **ASCI, Hyderabad: 1998-99** | • Urban Environmental Health Indicators (a research study) |
| **NIUA, New Delhi: 2000-04** | • Brainstorming Workshops for Hyderabad, Mirzapur, Bhubaneshwar and Nagpur<br>• Local Task Force Workshops for Hyderabad and Mirzapur<br>• Status Reports on related sectors of development for Hyderabad and Mirzapur<br>• Citywide campaigning in Mirzapur<br>• Monthly Health News (newspaper clippings)<br>• Guide Atlas for Healthy City Planning<br>• Mirzapur Healthy City Report<br>• Mirzapur Healthy District Need Assessment<br>• Mirzapur District Health Camps<br>• Mirzapur District PLA Reports<br>• Training in Mirzapur District<br>• MIS of Mirzapur District |
| **TCPO: 2000-01** | • Brainstorming workshop for Vrindavan<br>• Action Plan for Vrindavan |

Initially the four metropolitan cities of Bangalore, Kolkata, Mumbai and Delhi were selected, followed by Kottayam, a small town in Kerala. In addition, a research study on health indicators for Hyderabad was entrusted to the Administrative Staff College of India (ASCI).

In the following biennium, many more cities were selected for advocacy, of which Hyderabad, Mirzapur and Vrindavan were short-listed for formulating action plans. But since Hyderabad did not receive adequate political attention, the Healthy Cities Project did not take off here.

However, status reports of some priority areas (as identified by the citizens during the Brainstorming Workshop) were prepared to assess the current situation. In Mirzapur attempts are being made to prepare an Action Plan, supported by the Local Government. Vrindavan had also prepared an Action Plan, which could not fructify because of lack of resources. In all the other cities, Brainstorming Workshops were held for advocacy. Moreover, many training programmes were held in various cities for capacity building of personnel and the community, to develop Healthy Cities. In the second biennium, selection of cities was left to the facilitating agencies (NIUA, HSMI and TCPO).

It was found that the "settings" approach was more effective, since handling the entire city for improvement was too big a task. It was also realised that demonstrative actions convinced and encouraged the community more than the regular planning exercises. Therefore, to solicit community participation, the programme had to be action-oriented research and planning. It was noticed that convergence of development activities and programmes yielded better results. Clubbing projects together was observed to be more cost-effective. At the same time political or local government support was essential for project implementation. Here, the role of WHO and the National and State governments was found to be crucial in sponsoring and supporting the programme. Lack of coordination often delays implementation. WHO's focus is on advocacy and policy planning. But the local government's expectation is of development. While publicity (to change the mindset of the citizens) has to be fostered by politicians, the government (at all levels) will have to internalise the concept through different development projects.

The Government of India has recently selected Mirzapur district for the newly formed Healthy District Project, which is an extension of the Healthy City Project. The main objective of the project will be to create awareness for environmental hygiene and improvement of public health conditions, along with primary health promotion for a better quality of life.

## Planning for Health in India

The national strategy for health promotion has been two-pronged: (i) to build primary health care infrastructure; and (ii) to tackle specific diseases like malaria, AIDS, TB, blindness, etc. The primary health care infrastructure consists of Primary Health Care Centres (PHCs), Sub-centres

and Community Centres with a population of 30,000 for a unit. This mechanism provides for sustained and continuous health and family welfare services in the rural areas. The disease-specific strategy consists of programmes aimed at prevention and control of specific diseases that spread rapidly or are endemic to the country. In India the Health for All strategy is being re-oriented to *Health for the Under Privileged*. Some of the measures include allocation of funds under the Social Safety Net Scheme to improve the Maternal and Child Health (MCH) infrastructure. Under the Basic Minimum Services, the government is committed to provide credible primary health care at the 5,000-population level. The Plan outlays for the Health Departments, monitoring of the health programmes, etc. are also being stepped up (Govt. of India: 1997). The National Health Programmes that aim at prevention, control and eradication of communicable and non-communicable diseases are taken up by the Central government. The State governments normally build the health infrastructure.

The strengthening of the rural infrastructure is done by the Department of Family Welfare through provision of buildings, equipment, drugs, vaccines and training of personnel at all levels. Moreover, to augment the resources for health care, user charges for medical/diagnostic services in hospitals have also been introduced in some of the states, with exemption for the poor. The Plan focus has mostly been on "consolidation and operationalisation of the primary, secondary and the tertiary health care infrastructure for optimal performance and building up appropriate referral services, with an emphasis on primary care" and "effective implementation of national programmes for combating major health problems" (Govt. of India: 1997). However, communicable diseases continue to be a major cause of morbidity and mortality in India. Such conditions are prevalent more in the urban areas where rapid rural-urban migration has over-burdened environmental infrastructure, thereby deteriorating public health conditions and increasing morbidity. Moreover, rapid urbanization in India, as mentioned earlier, has over the last decade resulted into many slum formations, with more than one-third of the city's population (especially in larger cities) living under inhuman conditions in the slums, with all sorts of deprivations from basic utilities to education, poor housing, lack of health/medical care and a good quality of life.

The Healthy Cities Project will, therefore, be an appropriate intervention to counter the negative consequences of rapid urbanization. The realization that medical attention alone is not adequate for healthy living will bring about an integration of multi-sectoral development vis-à-vis health improvement. Relating morbidity to deteriorating public health conditions and environment will enable local authorities to find solutions to improve existing urban conditions. This would also bring about decentralisation in management practices and emphasize the importance of community participation. All over the world today good governance is being generated through community participation that is need-based. With a sharp focus on people's priorities, the Healthy Cities Project will be able to create a consciousness among citizens to participate in the planning and management of healthy living.

## Selection of Cities for the Project

The WHO definition of health is "a state of complete physical, mental and social well-being and not merely an absence of disease or infirmity". But the term health does not lend itself to easy measurement, as it is not defined in exact and readily measurable terms. Heredity, environment, lifestyle, socio-economic conditions, health and family welfare services are some of the determinants of health. Health is basically related to multi-dimensional factors, with some known and some unknown factors influencing each dimension. However, the term health can be measured and understood with the help of the following indicators:

- mortality
- morbidity
- disability rates
- nutrition status
- health care delivery
- utilization rates
- indicators of social and mental health
- environmental indicators
- socio-economic indicators
- health policy indicators
- indicators of quality of life and
- provision of utility services and basic infrastructure.

In India, the WHO has sponsored a study on Urban Environmental Health Indicators for the city of Hyderabad. This study includes both health and infrastructure data that influence morbidity and mortality. Some of the environmental indicators such as pollution levels, sewage facilities, available safe drinking water supply, existence of slums, etc. are related to the provision of urban infrastructure vis-à-vis population. In congested areas of living, as in cities, where the demand for utilities is more than the supply, diseases from infection caused by lack of physical resources and from stress are many. Henry Sigerist had written in 1941 that physicians alone cannot fight the war against disease and ill health. It is a people's war and the entire population must be mobilised permanently. He further envisaged that community participation would have to be at many levels:

- Health planning
- Creation of new health infrastructure
- Utilization of existing health infrastructure, and
- Cultivation of hygienic habits as preventive measures for better health of the community (Rao et al: 2001).

The Healthy City Project should, therefore, have a multi-dimensional approach for the improvement of environmental hygiene in relation to the disease burden. So far, in India, health has been considered as a sector of development. In all our plans, the approach for health improvement has been through curative measures. Preventive measures were introduced only in case of epidemics. Even this, to a certain extent, can be said to be curative, as it is a reactive method. But the Healthy City Project tries to be proactive in its approach, by attempting to introduce health as an element of city planning. The approach here is of prevention rather than cure. It can be practiced by matching population growth and the improvement of environmental infrastructure. Also, with the incremental development of the Healthy City Projects over the years, networking amongst cities will help them to learn technical and management processes/improvements from each other.

Keeping this multi-dimensional approach in mind, the city of Mirzapur was selected because of its large database, which was available with the municipality. The Institutional and Community Development Programme (ICDP) of the Ganga Action Plan had created this database to generate

tax revenue and to improve the city infrastructure and environmental hygiene by sanitising the city through better solid waste management and neighbourhood planning with the help of the community. Improvements were also made for the water supply system.

## SECTION III

## CASE OF MIRZAPUR

# Location

The city of Mirzapur is located between 25° 15'N and 82° 95'E. It covers an area of 39.89 $Km^2$ with a population of 2.05 lakhs (2001). Situated mid-way between Delhi and Kolkata in the Northern Railway, it is almost equidistant from Allahabad and Varanasi and is very close to Lucknow and Kanpur. It is linked to the National Highway Nos.2 and 7. This unique location of Mirzapur in the centre of the KAVAL cities of Uttar Pradesh provides the advantage of developing it into an ideal counter-magnet for the above-mentioned larger cities of the state. Situated on the south bank of the Ganga river, which "defines its history and its life", with the Vindhya hills to the south and the Vindhyavasini temple on the banks of the river towards the western fringe of the city, Mirzapur can be developed into an ideal tourist-cum-pilgrim centre for eastern Uttar Pradesh.

However, despite its advantageous location, the city of Mirzapur has not been able to do well economically. With changing designs and the demand for better quality products, the carpet and the brass industries, for which the city is famous, have not been able to compete in the global market for want of innovative ideas. Nor has the city been able to generate enough tax revenue to improve its deteriorating infrastructure. Moreover, the local government has not expanded its water supply and the sewerage system in tune with the population expansion. The roads have not been widened. The properties have not been maintained. Their valuation has not been revised over the years (until recently by the Institutional and Community Development Project-ICDP) for improving the tax revenue. Such conditions have made the city economically and physically weak and infirm. With a weak economic base and lack of physical improvement, the city's growth has come to a halt. Mirzapur is today on the brink of an urban decline. Planners are, therefore, expressing their concern on the deteriorating condition of this erstwhile centre of cultural activities that once gave Mirzapur its identity.

To revive the environmental health of the city, the Ganga Action Plan (GAP) in its second phase took the responsibility to reduce pollution and improve the physical condition of the city by controlling sewage disposal into the river and by partially treating the sewage that flows into the

river. As part of GAP, the Indo-Dutch ICDP created a Geographical Information System for the city to assist in enhancing property tax collection and upgrading the waste management system. A complete property-cum-household survey was done to revise property values in order to increase the municipal revenue for the upkeep of the city.

## Landuse

The old city of Mirzapur is on the banks of the River Ganga. The river delimits the city to the north. The present landuse of Mirzapur indicates unplanned and congested development in the city core. The southern part of the city is sparsely populated, as also the east and the west, except for the town of Vindhyachal where the famous Vindhyvasini temple is located. The Mirzapur-Vindhyachal Urban Area Development Plan reveals the presence of vast stretches of undeveloped land given over to agriculture away from the city core. Suggestions are there to disperse the population from the congested parts of the city to the peri-urban areas, by creating suburbs. An ideal landuse would be to expand the city on the lines of the "garden city" concept and then renew the inner city areas that still retain a physical scale of operation that is inappropriate for modern living, with narrow roads and mixed landuses. Given Mirzapur's population, this is not a difficult task.

**TABLE III.1: LANDUSE OF MIRZAPUR-VINDHYACHAL URBAN AREA**

| Landuse | Area in Hectares | Per cent to Total Plan Area | Per cent to Developed (city) Area |
|---|---|---|---|
| **Developed Area** | | | |
| Residential | 773.4 | 19.9 | 68.8 |
| Vocational | 42.7 | 1.1 | 3.8 |
| Industrial | 24.6 | 0.6 | 2.1 |
| Govt./semi-govt. | 10.5 | 2.8 | 9.5 |
| Community Utilities | 28.3 | 0.7 | 2.5 |
| Utilities & Services | 12.8 | 0.3 | 1.1 |
| Traffic & ransportation | 147.4 | 3.8 | 13.0 |
| Sub-total | 1139.7 | 29.2 | 100.0 |
| **Undeveloped Areas** | | | |
| Gardens | 223.6 | 5.8 | |
| Rivers/Reservoirs | 197.8 | 5.1 | |
| Agriculture | 2325.6 | 59.9 | |
| Sub-total | 3886.7 | 100.0 | |

*Source: Departmental Survey, 1997; Department of Planning, Govt. of Uttar Pradesh.*

Mirzapur occupies a prominent place in the Northern Railway. Thirty-six passenger trains and around 90-110 goods trains come to the city every day. The materials brought to the city are: coal, salt, chemical fertilizers, etc. The materials sent from the city are: cement, sand, wood, blankets, carpets/durries, etc.

A total of 4146.5 hectares has been proposed for the Mirzapur-Vindhyachal Greater Plan. Hence, expansion of the city for important economic activities will not be a difficult task. A wholesale market (on 3.1 hectares) has already been proposed, as also a warehouse (on 17.6 hectares). Mirzapur does not have specified commercial landuse, as market areas have mixed landuses.

Only 29.2 per cent of the total area allocated, is developed. This gives unlimited scope for the growth of industries, with cheap land, convenient location and a good means of transportation. There is also a proposal for an industrial waste-recycling site (of 6.2 hectares).

Mirzapur has very few parks and playgrounds. There are just four parks/gardens in the city: Shaheed park, Ghantaghar park, Ganga Darshan park and Laldiggi park. But these parks are small and inadequate for providing pollution-free healthy environment. The city lacks open spaces. There is a proposal for a playground and river bank development. Some area has also been proposed to be developed for religious festivals, especially during the time of the Navaratas, for which Mirzapur in renowned.

## Demographic profile

The 2001 census population of Mirzapur is 2.05 lakhs. The decadal population of the city since 1971 is as follows:

**TABLE III.2: POPULATION OF MIRZAPUR-VINDHYACHAL CITY**

| Year | Population | Decadal Variation | Decadal Growth (in %) |
|---|---|---|---|
| 1971 | 105939 | 5842 | 5.84 |
| 1981 | 128179 | 22240 | 20.99 |
| 1991 | 169336 | 41159 | 32.54 |
| 2001 | 205264 | 35928 | 21.22 |

Considering that Mirzapur is the divisional headquarters, the city is growing very slowly in comparison to such other cities (Status paper based on 1981 and 1991 census publications).

The sex ratio of the city is almost the same as that of the state.

**TABLE III 3: SEX-RATIO OF MIRZAPUR-VINDHYACHAL**

| Place | Sex-Ratio (Females/1000 Males) | | | |
|---|---|---|---|---|
| | 1971 | 1981 | 1991 | 2001 |
| Mirzapur-Vindhyachal | 853 | 850 | 864 | NA |
| Uttar Pradesh | 821 | 846 | 862 | 898 |

Though the literacy level is increasing with time, the proportion of literates in the city is still less than 50 per cent and there is less education among women.

**TABLE III.4: PERCENTAGE OF LITERATES**

| Literacy | 1971 | 1981 | 1991 | 2001 |
|---|---|---|---|---|
| Total literates | 38.35 | 42.06 | 48.10 | NA |
| Literate men | 68.92 | 64.84 | 63.43 | NA |
| Literate women | 31.08 | 33.16 | 36.57 | NA |

The projected population of Mirzapur-Vindhyachal city area was estimated through different mathematical modes, as follows:

**TABLE III.5: PROJECTED POPULATION OF MIRZAPUR-VINDHYACHAL**

| Mathematical Mode of Population Projection | Projected Population of 2001 | Projected Population of 2011 |
|---|---|---|
| Arithmetical | 2,01,083 | 2,32,729 |
| Geometrical | 2,14,775 | 2,73,120 |
| Parabola | 2,29,506 | 2,51,057 |
| Total | 6,45,364 | 7,56,974 |
| Average | 2,15,122 | 2,52,325 |
| Population of 40 villages included in the Greater Urban Area | 43,496 | 52,166 |
| Grand Total | 2,58,618 | 3,04,521 |
| Figures in lakhs | 2.60 lakhs | 3.05 lakhs |

*Source: Bureau of Economics and Statistics*

However, as per the census records, the 2001 population of Mirzapur is 2.05 lakhs. The population has not increased as per the estimates. It is because the two major industries of Mirzapur (brassware and the carpet weaving) are not doing well. Moreover, labour for the brassware industry comes from the neighbouring villages in the morning and leaves the city after

the day's work. As for the carpet industry, the weaving centres are mostly in the rural areas. The city is only a trade centre for the industry.

The proportion of main workers engaged in economic activities in 1991 was 26.02 per cent. Mirzapur city is just short of 0.54 per cent from the state average of 26.56 per cent. But the city being an urban area, where people congregate for economic activities, the proportion of workers should have been more. Lower percentage of workers indicates that the dependency ratio in the city is very high. There is, therefore, an urgent need to generate economic activities in Mirzapur. The carpet industry in the city is unable to cope with the new global demands. The need for brass/copper utensils has also declined. It is necessary for the major industries to expand and diversify for a healthy growth of the city, as growth of economic activity is the key to all development.

## Environmental Status

Mirzapur is an old and unplanned city covering a small area. The city core is congested in spite of a small population. Because of a decline in the carpet and the brass industries, which were once the major employers, the population growth is slow. However, despite the sluggish population growth, the local body has not kept pace with infrastructure development and utility services. Until recently, the domestic and the industrial waste were both emptied into the River Ganga. The toxic wastes discharged into the river created a threat to the aquatic life. In fact, such has been the fate of many Indian cities along the banks of the river Ganga. Mirzapur is no exception to the rule!

The Central Government took notice of the situation and launched the Ganga Action Plan (GAP) to abate pollution by (1) enacting appropriate laws and (2) providing financial aid to the municipal bodies for interception. Of the 25 towns/cities selected, Mirzapur happens to be one. In Mirzapur, the GAP was to be executed in two phases, of which the Dutch Government funded the first phase. The main aim of the GAP was to prevent the disposal of domestic and industrial waste into the river by treating it at the Sewage Treatment Plant (STP) and use the treated effluent for irrigation. The GAP is being administered by the U.P. Jal Nigam.

Some gas is also being produced from the STP. At present, it is being used to run three generators in the STP complex. The rest is being burnt down, as storage is expensive. But this gas can be bottled for sale, as a pilot project, if the cost is conducive.

Under this programme an Interceptor (Trunk Sewer) of about 2.3 kms. has been laid for sewage treatment. A mesh of sewers of 11.40 kms. in length has also been laid as main branch sewers, covering most of the city (including core and non-core areas). Moreover, to improve the sanitary conditions of the city, low cost sanitation, water supply and solid waste management schemes were proposed to be executed, the details of which are given below:

**TABLE III.6: INFRASTRUCTURE SCHEMES**

| Infrastructure | Financer | Budget (in lakhs) |
|---|---|---|
| Mirzapur water supply (crash) | Govt. of U. P. | 50.00 |
| Mirzapur water supply-Ph. I A | -do- | 72.00 |
| Mirzapur water supply-Ph. I B | Dutch Govt. | 185.92 |
| Sewerage & Storm Water Drainage (crash) | -do- | 30.24 |
| Interceptor Sewer & Pumping Station | -do- | 256.00 |
| Wide-mesh Sewerage System in core area | -do- | 253.00 |
| Expansion of Drainage System in core area | -do- | 254.72 |
| UASB Sewage treatment plant | -do- | 262.04 |
| Low-cost sanitation | -do- | 224.40 |

In the first phase, the following works were completed:

**TABLE III.7: INFRASTRUCTURE DEVELOPMENT**

| Infrastructure | Quantity |
|---|---|
| Sewer Line | 14870 m |
| Surface Drain | 35000 m |
| Storm Water Drain | 2620 m |
| Intermediate Pumping Station (IPS) | One (capacity-8.5 mld) |
| Main Pumping Station (MPS) | One (capacity-14 mld) |
| UASB type STP with polishing pond | 14 mld capacity |
| Public Toilets (19 sets) | 3908 (nos.) – on site |
| P. F. off-site latrines | 2689 (nos.) |
| Wood based Crematoria | 2 (nos.) |

*Source: Status paper, February 2001.*

However, the developments in the city are partial. The first phase served 60 per cent of the population and 55 per cent of the city area (mostly in the inner city). The narrow lanes and by-

lanes, where installation is problematic, still remain unattended. Maintenance and monitoring of such areas can only be done through community participation and neighbourhood planning. The Integrated Community Development Programme (ICDP), which was part of the Dutch Project activities, initiated the process of community participation, thereby acknowledging its importance in city planning (details given in the section on "Community Participation"). Many alternative proposals were also formulated. All the sewers proposed in the narrow lanes of the core area, which were not covered by the Ganga Action Plan, will in due course be connected to the nearest Interceptor Sewer and ultimately to the MPS and the Sewage Treatment Plant. There is a demand from the people to cover the entire city, as there is a felt need to improve the sanitation of the city.

As per CPHEEO only 70 to 100 lpcd is considered adequate for domestic needs of the urban population. But to meet the non-domestic needs and industrial and fire fighting demands, 150 to 200 lpcd has been recommended for Mirzapur. The sewage flow has been calculated on the basis of the w/s rate and its intercepting factor. There is also a proposal to cover the open drains. To provide for such services, an STP with a capacity of 14 mld is required. The need has been calculated based on the 2021 population projection, which will only serve the population that has not been covered/serviced so far.

There is also a need to build a separate sewer system and treatment plant for the industrial zone. But as of today, there seems to be no hope of the funding of such development either by the State or the Centre. Storm water drains have also been proposed, as also an improvement in the existing drains and open effluent channels, including the strengthening of the existing storm water drain of Mirzapur from Kajrohwa Pokhara of Ghode Shahid. For the improvement of the east zone and the industrial zone, a storm water drain of 4.00 kms. has been proposed. The *nalas* will also be tapped and only the storm water will be released to the river Ganga. In Mirzapur all the storm water drains need to be covered in order to prevent solid waste from being thrown into the drains. RCC slab covers have been proposed and budgeted for. Estimations for the Khandwa *Nala*, which needs to be renovated, have also been drawn. Cost estimations (of Rs. 42 crores) for the Phase II of GAP have also been prepared and the detailed works outlined in the feasibility report submitted for STP, drainage and sewerage.

For the low-cost sanitation programme, conversion of 1,500 dry latrines into pour-flush toilets has been proposed in areas not covered by the sewerage. There are also proposals to widen the sewer lines and construct intermediate pumping stations. For further sanitation, setting up of public toilet complexes has already been proposed.

Mirzapur suffers from shortage of potable water supply. The pressure in the pipelines is so feeble, that people install booster-pump sets to suck in water from the water mains for household consumption. This creates a lot of management problems for the local government. It also causes a lot of discordance among neighbours. As mentioned above, there are provisions to improve the water supply system.

The Vindhyachal area will be served in the phase II of the GAP. All the funds will be provided by the Central government. The details are given in Table III.8.

**TABLE III.8: ESTIMATES FOR VINDHYACHAL INFRASTRUCTURE**

| **Infrastructure** | **Budget in Rs. (in lakhs)** |
|---|---|
| Interception and diversion of sewer scheme | 134.80 |
| Scheme for sewage treatment plant | 37.89 |
| Low cost sanitation scheme | 38.99 |
| Storm water drainage scheme | 12.98 |
| Land acquisition scheme | 23.65 |

Schemes 1, 3 and 4 have been cleared by the National River Conservation Directorate (NRCD), New Delhi. The work on these schemes has already started. It is expected that this will solve the sanitation problems of the area till the year 2021. Meanwhile, costs have escalated for the STP to Rs. 81.5 lakhs. The STP in the Vindhyachal area will be of 4 mld.

## Community Participation

Today community participation is being adopted for planning as a result of a deep-seated disillusionment over the top-down approach to planning. It was assumed at the onset of the planning process that development benefits would trickle down to the grassroots level. But this did not happen. While it was realized that a top-down approach was necessary for a countrywide development, a bottom-up approach is required to reach development to the community. Hence even though community participation should have come as a legitimate approach to grassroots

planning, it is now being adopted as a reaction to the failure of top-down planning to affect development at the local level. There is, therefore, a worldwide change to bring the people to the center-stage of all planning processes.

Keeping in view this changing situation, it has now become necessary to amend old concepts and introduce a more democratic planning process whereby people themselves set their priorities for development. It is hoped that a bottom-up approach will be more sustainable as it will be based on people's needs and available resources. Moreover, since all planning is for the people, there is a demand to involve the people in the decision-making process. The international forum is, therefore, in search of an institutional setup that will facilitate community participation.

The concept of public participation is not an intellectual jugglery of words. It has to follow a rather tedious and rigorous process, whereby each and every citizen is given equal importance to specify his or her needs and problems. One ideology believes that participation is an investment of human resources in the efforts towards development. The other ideology emphasizes that participation enables the common people to improve their own conditions and their quality of life. However, in both the approaches, participation is a means to an end. Given the strength of the technique, there is a global search for appropriate strategies and institution building, with an aim to accommodate local level characteristics and requirements.

Efforts towards community participation have established an understanding over the years that follow a few principles. In fact, participation can be treated as an off-shoot of democracy, where all partners have equal rights. Democracy can also be considered as an administrative setup, which is of the people, for the people, and by the people. But, in practice, democracy with people's representation has not remained in its ideal form of participatory planning because of vested interests and party politics. It has become a toy for the resourceful and the powerful. Hence direct participation of people is being favoured with assistance from local leaders.

In developing countries, with a large illiterate population, the effort of facilitating community participation becomes rather difficult. It is also time-consuming, as building rapport with a backward and parochial population takes time. There are different forms of community participation. Some are through interviews, while the others are devised as a process of learning

that in sociological terms is called "participant observation" or "participatory assessment". Today, planners are accepting it as an effective planning process. The principles followed are:

- To approach community leaders with the purpose to learn
- To greet people with traditional welcome with which they are familiar
- Question people about subjects they are familiar with and can relate to
- Continue discussion in a friendly manner
- Talk with an open mind
- Give equal importance to everybody
- Give enough time to people to express their problems or needs
- Reach sensitive questions gradually
- Give importance to non-verbal communications
- Do not reveal your disagreement with the surrounding atmosphere
- Try to see difficulties from people's point of view
- Try to internalize the process by keeping records in a manner comprehensible to all
- Be very transparent
- Have a sympathetic attitude
- Respect every citizen, etc.

However it requires governmental approval and machinery.

An initiative to this effect was taken by the Government of India, through the 73$^{rd}$ and the 74$^{th}$ amendments to the Indian Constitution. However, the practice is yet to be localized in many of the states in India. The task of translating the process at the state and the local levels has been entrusted to SUDA (State Urban Development Authority) and DUDA (District Urban Development Authority). In Mirzapur two agencies were entrusted with the task of introducing community participation. Apart from DUDA the other agency that initiated the process was the Mirzapur Nagar Palika Parishad. Through its ICDP project this process was introduced in several of its low-income residential areas. DUDA has also been entrusted with the task of promoting community participation in the city slums.

The ICDP Effort

Noorai ka Bhattha, a low-income residential area, established over 30 years ago at the edge of the built-up city of Mirzapur, had never been able to obtain basic urban services. Members of the community were unhappy about the large number of mosquitoes and other pests attracted by the open drain running through the middle of the pathway, which is the main thoroughfare of the locality.

After an intervention by ICDP in 1997 a positive response was elicited. From their meager resources, the community offered to contribute 20-30 per cent of the cost of a drain construction. However, before work could begin, the water supply was abruptly disconnected. Water being of urgent need, a new hand pump was first installed, after collecting contributions from residents. Soon after, the community collected money for a new street drain. Almost all houses had extensions that blocked part of the footpath or open drains emptying onto the footpath. To remove these encroachments, the community met informally and as a panchayat, or village council, at the time of the drain construction.

The residents continued to improve their lane with flagstones and other accessories. Several families improved their houses and two small shops were opened. In less than one year, after the installation of the hand pump and the new drain, the community collected money to pave the mud footpath. When the municipal staff does not clean the drain, male members of the community clean it themselves. "After all, it is their drain, built with their hard-earned money!"

After such physical improvements were made in a few areas, the time needed to motivate and organize people decreased. Soon the programme took on a life of it's own. Council members, as well as independent community representatives prepared proposals for further development. Public response to the financial participation was also overwhelming. In a little over 3 years, 318 such works were completed in 200 communities, with 70 families in each, representing 40 per cent of the population. However, there is more to be covered.

The DUDA Effort

The Government of India in 1990 formed the District Urban Development Authority (DUDA) to alleviate poverty in the districts. The work was to be performed under the chairmanship of the

District Magistrate of the respective districts. In U. P. all the districts have formed these Authorities. In Mirzapur district the DUDA projects are being carried out in Mirzapur City, Chunar, Ahrora and Kachhwa. In total 77 slums have been selected in the district for which there are 586 Resident Community Volunteers, 76 Neighbourhood Committees and 8 Community Development Societies. The focus of DUDA's work is on convergence of projects, to be done with the help of community participation. Keeping these objectives in mind, the two programmes of Nehru Rozgar Yojana and the Urban Basic Services for the Poor were started in the year 1990, from which lakhs of poor people benefited. However, in 1997 the two projects were coalesced to form the Swaran Jayanti Rozgar Yojana, which had six components consisting of: (i) Urban Self-Employment, (ii) Urban Self-Employment Training, (iii) Urban Wage, (iv) Development of Women and Children in Urban Areas, (v) Thrift and Credit Societies and (vi) the Formation and Expansion of Community Groups. The other project was the National Slum Development Programme.

To ensure community participation DUDA has developed a three-tier system of community development in Mirzapur. The first tier constitutes 20-25 BPL (below poverty line) households, represented by a female member who is elected by the community. This member becomes a Resident Community Volunteer (RCV) to help the community. In Mirzapur city there are 420 RCVs. They work for:

- creating awareness and promoting communications among the households
- implementing and monitoring need-based activities within their community, and
- carrying out the regulations imposed by the Neighbourhood Committees for area development.

The second tier constitutes of 8-10 women representatives to take care of 200-250 households. These representatives form the Neighbourhood Committee. The Chairperson (a lady) of the Neighbourhood Committee is selected through popular consensus. The Chairperson represents the entire community of 200-250 households and develops need-based community projects for community development. There are altogether 51 such Neighbourhood Committees in Mirzapur city. The Neighbourhood Committee works for:

- identifying local problems and priorities
- helps the different departments to fulfill community development objectives

- create a bridge between the community and the different departments for development
- building capacity through training
- forming self-help groups
- take action with the cooperation of the community to fulfill their aims, and
- help in loan repayment

The third tier organizes 2000-2500 households through 8-10 Chairpersons of Neighbourhood Committees, who represent the households. They form a Community Development Society (CDS) that is registered under the Societies Registration Act. The CDS looks after all the DUDA projects to promote community participation. A Working Committee of the CDS is formed under a Chairperson (who is a lady). At present there are five CDS working in Mirzapur city. The duties of the CDS are:

- to coordinate with the working committees and departments to encourage the community for need-based activities
- identify and implement group requirements
- identification of beneficiaries and supervision of schemes
- resource generation for plan activities
- ensure loan repayment of beneficiaries.

Mirzapur Nagar Palika Parishad has 31 slums with a total population of 41,032 persons.

## Water Supply

Situated on the right bank of the river Ganga, Mirzapur city stretches for a length of 10 kms. It is 79-86 meters above the mean sea level. However, except for a small mound in Mukeri Bazar, the city is built mostly on level ground. The average annual rainfall is about 1060mm. The ground water level is about 13-16 meters below the surface.

Piped water supply was first introduced in Mirzapur in 1914. Water was carried under gravity from the Tanda reservoir, through a C. I. pipeline having a diameter of 300mm. and a running length of 9.2 kms, to convey the water to the Lanka ki Pahari reservoir, having a capacity of 5.4 mld. This source of water is located on a small hillock about 3 kms. away from the city, to ensure gravity flow of water to the city. One C. I. pipe of 400mm diameter carries the water to the city. The water is then distributed through a network of more C. I. pipelines to neighbourhoods within the city.

Subsequently the capacity of the Tanda reservoir was increased to 10.2 mld and that of the Lanka ki Pahari reservoir to 10 mld. A rapid gravity filter plant of 10 mld was constructed at the main water works at Laldiggi. The gravity main from the Tanda reservoir was duplicated by another C. I. pipe of 300mm diameter. An additional pipeline of 450 mm diameter was laid from Sabari Octroi Post to Lal Diggi to carry the raw water to the filter plant at the water works. An underground clear water reservoir, with a capacity of 3150 kl, was constructed at Lal Diggi to collect and store the filtered water. However, since this is not enough, the supply of water to the city is augmented by tube-wells, for which more distribution lines have been laid.

Statistical Data of Mirzapur Water Supply System

| | | |
|---|---|---|
| 1. | Total Population (2001) | 2,05,264 |
| 2. | Connections as per records | 16,700 |
| 3. | Storage Capacity (in 8 OHT) | 7730 kl |
| 4. | Length of Rising Mains | 50 km |
| 5. | Length of Distribution Mains (2" – 18") | 200 km |
| 6. | Stand Posts | 470 |
| 7. | Sources of water: | |

(a) Surface water—Tanda Reservoir, capacity 4000 ml (7 ml/day)
(b) Ground water—34 Tube wells of 31.75 mld/day and 3 wells
(c) Handpumps—1000

8. Filtration Plant—Rapid sand filter with two chambers, filtration capacity 120,000 gallons per hour (540 kl/hour)
9. Under ground clear water reservoir at Laldiggi, capacity 3150 kl.

For administrative purposes, the city is divided into five zones (except the Vindhyachal area) namely Chetganj, Mukeri Bazar, Welleslyganj, Civil Lines and Industrial zones. Being away from the core city, Vindhyachal has a separate water supply and drainage system. In each zone of Mirzapur one RCC overhead tank has been constructed and a few new tube wells have been dug. The distribution system in each zone has been reorganized to meet the total demand for water.

But the population of Mirzapur has outgrown the capacity of the water supply system. In 1987-88 a Dutch consultant had prepared a project of Rs. 50 lakh to augment the water supply of the city. This project was implemented. The following main works were included in the scheme, which were commissioned and completed:

- Segregation of water supply zones (including Vindhyachal) - 6 nos.
- Regeneration of old tube wells - 12 nos.
- Rehabilitation of standposts - 170 nos.
- Construction of Overhead tank of 2250 kl capacity at 19 m staging in Wellesleyganj zone - 1 no.

At present, the Tanda reservoir supplies **7 mld** of water to the city, which takes care of only one-fourth of the requirements. This amount is augmented by 34 tube wells and 3 wells. The tube wells provide **23 mld** of water. The present rate of supply is 125 lpcd for a forecasted population of 2,32,000. But the actual water supplied to the people is much less. As per the leak detection survey conducted by the Dutch consultants in April/May 1988, about 70 per cent of the water is being lost due to wastage and leakage. Moreover, the pressure of the water in the pipelines is abysmally low, compelling the citizens to take recourse to direct connection of booster pumps onto the supply mains. This adds to the citizens' woes. However, after most of the leakages were repaired, the situation improved. But the distribution lines could not be corrected totally because of physical constraints, as the lanes of the residential neighbourhoods are very narrow. At present there is about 30 per cent leakage. Today faults in the distribution system create a total shortage of about **7 mld** of water. Zonewise distribution is given below. The water supply zones were demarcated on the basis of population density, available water and natural slopes.

**TABLE III: 9 WATER SUPPLY STORAGE CAPACITY**

| Zone No. | Name of Zone | Required Storage (kl) | Available Storage (kl) | Additional Storage Needed (kl) |
|---|---|---|---|---|
| 1 | Chetganj | 2400 | 425 | 2000 |
| 2 | Mukeribazar | 3100 | OHT (900 kl) + CWR (3150 kl) | Storage not required |
| 3 | Welleslleyganj | 3200 | OHT I (2250 kl) + OHT II (340 kl) | Storage not required |
| 4 | Civil Line | 2400 | 565 | 1800 |
| 5 | Industrial zone | 1700 | | 1700 |
| 6 | Vindhyachal | 1700 | 100 | 1600 |
| | **Total** | **14500** | **7730** | **6770** |

The storage in most of the zones is much less than the required amount. Therefore, upgradation of the existing distribution system and construction of more tanks in each zone is necessary.

The current problem of the water supply system is that the distribution lines are almost 90 years old and need to be repaired. Moreover, these pipelines have run out of their carrying capacity with the increase in population. The leakages are not visible on the surface and, therefore, not easily detectable. The storage capacity is also much less than what is required today. Hence rehabilitation of the existing distribution network and construction of more overhead tanks in each zone is required. Hence, the two major objectives of the Nagar Palika Parishad are (1) to improve and maintain sufficient terminal pressures and (2) to improve the overall water supply distribution in the city.

As per a survey by the Central Ground Water Board, the ground water level is going down every day. It is, therefore, advisable to use surface water for the city, especially for drinking. Mirzapur Nagar Palika Parishad has, therefore, requested for the conveyance of water from Vaan Sagar into the Tanda reservoir through canals. This would also mean the construction of two more pipelines, using the earlier design of gravity flow. Another possible source of water could be the river Ganga. However, legal rights will have to be reviewed, to find out if water for the city can be drawn from the river, after treatment.

## Solid Waste Management

With progressing urbanization the problem of solid waste disposal has increased. The high population density and the intensive use of residential land, especially in the core of the city, coupled with commercial and industrial activities, have effected the environment adversely. Though it is the responsibility of the local body to clear the city of solid waste, local bodies all over India have failed to cope with the magnitude of the task because of rapid population growth. As a result, there is lack of adequate provision of such services in practically all cities. Mirzapur is no exception to this. The **composition** of solid waste in Mirzapur is presented in Table III.10 as an illustration.

TABLE III: 10 COMPOSITION OF SOLID WASTE

| Sl. No. | Type of Waste | Generation of Waste (MT) |
|---|---|---|
| 1 | Domestic waste | 73.5 |
| 2 | Drain silt | 05.0 |
| 3 | Commercial waste | 10.0 |
| 4 | Industrial waste | 08.0 |
| 5 | Hospital waste | 01.0 |
| 6 | Animal corpses | 04.0 |
| 7 | Slaughter house waste | 01.5 |
| 8 | Demolition debris | 02.0 |
| | Total | 105.0 |

The moisture content of the solid waste is 18 per cent, it's organic content 57 per cent and density 450 kg/$m^3$. The proportions of domestic, commercial and silts in the total solid waste are 74 per cent, 20 per cent and 6 per cent respectively.

The **disposal** of the solid waste in Mirzapur is as follows:

**Primary Collection:**

Solid waste is collected from the streets and the drains and transported to the collection depots.

**Road Sweeping:**

Domestic and industrial waste is generally thrown on the streets in Mirzapur, from where it is collected into heaps by the road sweepers equipped with brooms. Each sweeper is responsible for the daily collection of a fixed area. Handcarts collect the heaped waste and transport it through buffalo drawn carts. But very often this collection is not synchronized, leading to scattering of the waste.

**Collection by Handcarts:**

Each handcart carries 180 kg. The weight of each handcart is about 75 kg. The handcarts are generally emptied at the collection depots. The number of trips varies with area, population density, distance to the depot and the presence of markets and industries. It is generally 4 to 5 trips per day. However, the maintenance of the handcarts is poor and together with poor road conditions and its own weight, movement is tardy. Handcarts carry 15 tons of garbage per day.

**Collection by Rickshaw Trolleys:**

To make the collection more efficient, rickshaw trolleys were introduced. While handcarts were to be used in the narrow lanes (where rickshaws could not operate), the rickshaw trolleys were to be used for the rest of the city. Initially 100 rickshaw trolleys were purchased. But at present only 60 remain operational. Each rickshaw trolley weighs 0.4 $m^3$ and can make 4 trips per day. Hence the total capacity now is 60x4x0.4/1000= 48 T/day.

**Collection Depots:**

There are at present ten collection depots, though 13 are required. Solid waste collection platforms were designed by the ICDP to facilitate waste collection. The depot platforms are at a slope, so that the garbage is directly transferred from the trolleys to the tractors/loaders. Building of depots depends on the availability of land, proximity of houses and coverage.

**Tractors:**

Altogether six tractors are required for the whole city. The capacity of one tractor trolley is 2T/trip. The time required for one depot is three hours. One tractor can serve two depots in six hours. Hence five tractors serve ten depots. One tractor is used for collection from slaughterhouses and for emergencies.

**Equipment Inventory and Condition:**

The vehicle fleet has never been adequate for the routine operations. As a result, the existing equipments are overused and breakdowns are frequent.

**Total Disposal:**

The total generation of solid waste is 105 tons/day. Of this, handcarts remove 15 tons/day, rickshaw trolleys 48 tons/day and the loader and dumper 16 tons/day. In total, 79 tons/day of solid waste is removed. The remaining 26 tons of garbage remains on the road. Besides, the back lanes of houses are mostly choked with solid waste.

**Collection Process at Depots:**

Handcarts and cycle rickshaw trolleys dump the solid waste directly into the tractor trolley. This minimizes the labour needed for loading. At least one tractor is parked at the ramp all the time.

**Organizational Setup of the Sanitation Department:**

The titular head of the department is the Municipal Health Officer, who is a doctor and is on part time deputation. As a result, the practical responsibility has moved down to one of the four Sanitary Inspectors, since there is no Chief Sanitary Inspector. Under each Sanitary Inspector, there are seven "Safayee Naiks".

**Drawbacks:**

Street Sweeping

- There are no dustbins in the city. Garbage is thrown onto the street.
- Sweeping in commercial areas is done at 6.30 a.m. in the morning, whereas the shops open at 9 a.m. and garbage is thrown soon after the area is cleaned (About 20 years back, sweeping was done twice a day, at dawn and dusk).
- All the lanes, streets and roads are not included in the sweeping operations.
- Slum areas are neglected.
- Garbage is frequently thrown into the storm water drains, which blocks the drains and causes flooding.
- Streets are not swept on Sundays and public holidays.

Transportation

- All types of waste are thrown into a common area, thereby creating health hazard to the workers.
- The hydraulic vehicles need proper maintenance and well-trained staff.
- There are not enough maintenance workshops.

Disposal of Waste

- The common method is open dumping in low-lying areas of the city.
- Crude dumping of waste is done without following the principles of sanitary land filling, which requires an impervious lining, good management of gases and leachate produced and a debris or soil cover. They are, therefore, a potential danger to the subsoil and contamination of the underground water.

- All kinds of wastes (without segregation), including infectious hospital wastes find their way into the dumping grounds. Industrial waste is also dumped into the same site.
- The waste deposited is not compacted or spread.
- The practice of spraying inappropriate toxic pesticides only compounds the problem.
- Dumpsites breed flies, rodents and street dogs, as inert material is not sprinkled over the garbage.
- Composting of waste is not being done in Mirzapur.

Protective Equipments

- Sweepers are not given protective equipments such as gloves, boots and masks, even though they are exposed to health risks.

## Health Infrastructure

Health infrastructure is a State responsibility. Hence the health infrastructure provided is for the district as a whole. Administratively, the district is divided into 4 tehsils and 12 Community Development Blocks. It covers an area of 4,952 $Km^2$. The 2001 population of the district was 21.2 lakh, of which 2.2 lakh was in urban areas and 19.0 lakhs in the rural areas. The population growth rate per annum for the district is 2.54 per cent. The average population density of the district is 428 persons/$Km^2$ and the sex ratio is 952 females/1000 males.

In the rural areas primary health care services are provided for preventive, curative and promotive health, through government health centres.

**TABLE III.11: RURAL HEALTH CENTRES**

| Infrsatructure | Numbers |
|---|---|
| Primary Health Centres | 12 |
| New Primary Health Centres | 36 |
| Sub-centres | 256 |
| Community Health Centres | 3 |
| Tehsil Post Partum Centre, Chunar | 1 |

In the urban areas, curative services and partial preventive and promotive services are provided through hospitals.

**TABLE III.12: HOSPITALS**

| Sl. No. | Infrastructure | Numbers |
|---|---|---|
| 1 | District Hospital | 1 |
| 2 | District Women Hospital | 1 |
| 3 | Post Partum Centre | 1 |

The district male and female hospitals are the referral units for all the rural health centers. The district hospitals cater to both the urban and the rural areas.

In one community block of the rural areas there is usually one primary health center (PHC), which serves a population of approximately 1.5 lakh. Under one PHC there are 2-4 new PHCs, each covering 30,000 population. For every 5,000 rural population, there is one sub-centre providing preventive, promotive and primary medical care for minor ailments.

**Mirzapur District Hospital**

A total of 156 beds are available in the District Hospital. The hospital is divided into different sections that are further divided into different departments. **The medical ward** has three departments:

- Paediatric Department
- Cardiology Department
- Skin and V.D. Department

The total number of beds in the medical ward is 36. It has 2 medical officers (physicians), 7 pharmacists, 26 nursing staff and 7 class four workers.

The Paediatric Department has 16 beds. There are 3 medical officers here with specialized qualifications. The other staff performs their duty by rotation.

The Cardiology Department has four additional beds. There is one cardiologist in this department. This section has an ECG machine, but no ECG technician.

The **surgical ward** is divided into two sections:

- General surgery
- Orthopaedic surgery

The general surgery department has 32 beds and three surgeons. The operation theatre is well equipped.

The orthopedic surgery section has 28 beds, one surgeon and a well-equipped operation theatre.

There are no paediatric or plastic surgery section in the district hospital, even though there is a need for it. Neither is there a separate burn care centre. Because burn cases are kept under observation, there is need for full time paramedical staff, nurses and equipments. Nor is there a separate ward for nephrology or neurology.

There is only one pathology lab, with just one technician. So is the case with radiology. However, there is an x-ray machine. Provision is also there for ultrasonography.

A Blood Bank has been established in the District Hospital. But the post of the medical officer in this section is lying vacant. However, there is one technician for the unit.

As for hospital infrastructure, there is only one generator, though there is a need for two. There are also two ambulances in the hospital.

There is a **homeopathic section** in the District Hospital, which provides only OPD services. There is no indoor facility. There are two medical officers, two pharmacists and one Class IV staff. The patient turnover is quite high.

**Strengthening of the District Hospital**

In order to provide better medical services, the District Hospital needs to be strengthened in terms of staff, equipments and beds. Table III.13 gives the details.

TABLE III.13 REQUIREMENTS IN HOSPITALS

| Description | Existing System | | Requirements | | Remarks |
|---|---|---|---|---|---|
| | No. of beds available | Medical specialists available | No. of beds required | Medical specialists required | |
| Medicine | 36 | 2 | 36 | 2 (for emergency) | |
| Paediatric | 16 | 3 | 14 | 2 | Posts sanctioned but not filled |
| Cardiology | 4 | 1 | 6 | 3 | |
| ECG tech. | - | - | - | 3 | |
| Surgery | 32 | 3 | 48 | 3 | |
| Orthopaedic | 28 | 1 | 22 | 3 | |
| Paediatric Surgery | - | - | 10 | 2 | Not begun |
| Burn Care Unit | - | - | 5 | 1 | |
| Neuro Surgery | - | - | 10 | 2 | |
| Nephrology | - | - | 5 | 1 | |
| Plastic surgery | - | - | 5 | 1 | |
| Skin VD | - | 2 | 4 | - | |
| Blood Bank | - | - | - | 2 | |
| Female ward | 40 (including medicine and surgery) | | | | |
| Total | 155 | | 165 | | |

The hospital has now been upgraded into a *mandal* centre, which increases its requirements for specialist services. It also requires more para-medical staff. Moreover, there is need to upgrade the water supply, the approach road and the electricity supply. Besides, the hospital does not have a hearse. There is only one ambulance with a driver and a cleaner. The need is for more.

The following diagnostic/supporting facilities are also required:

- The Pathology Department needs to be upgraded, so that bio-chemical tests, histopathology investigations, etc. can be done in the hospital, for which the

following instruments will be required: one auto analyzer, one hot air oven, one incubator and 3 microscopes.

- For the Cardiology Department the following equipments should be provided: modern ECG machine, TMT, 2-d Eco with colour Doppler, image intensifier and pace makers (for 25).
- For the Radiology Department there is need for: X-ray machine of 500mm, ultrasound, CT scan, computer with printer and scanner and MRI.
- In the Operation Theatre the requirements are: pulse oxymeter, operative laproscope, TUR machine, endoscope machine, cystoscope, sigmoid scope, artificial ventilator with CP/AP, CPM image intensifier 9.5" and glucometer.
- For Maternity and Child Health Care, the following equipments are required: radiant warmer survey control, two pairs of phototherapy unit, aponia monitor, neonatal ventilator, trans cutaneous blood gas monitor, infusion pump, paediatric LARYNGO scope with endotracheal tube, paediatric suction machine and blood pressure machine
- paediatric monitor with cuff size 1to 5.
- The following manpower is necessary: 3 lab-technicians, 3 ECG-technicians, 2 X-ray technicians, 2 CT scan technicians/operators, 2 MRI technicians/operators, 35 ward boys, 7 sweepers, 3 *chaukidars* and 2 motor vehicle drivers.

**District Women's Hospital**

There are 62 beds in the female hospital. The hospital has seven sanctioned posts for medical officers. However, at present there is one chief medical superintendent and four medical officers. The other posts are lying vacant. The post of one child specialist is also vacant. The number of staff nurses and other paramedical personnel are insufficient because of the workload, as many gynaecological and obstetrical cases are referred from the rural areas to the district hospital.

One **Post Partum Centre** has been established in the hospital. Two posts of medical officers have been sanctioned, out of which one is lying vacant. Family planning services are provided through PP center, as well as district women's hospital.

### National TB Control Programme

Under the National TB Control Programme one TB clinic in the city is functioning, which provides treatment for outdoor patients. There are 3 medical officers in the clinic, with 13 Class III and 6 Class IV employees.

### TB Isolation Hospital

This hospital of 50 beds is situated in a very old building. The hospital has one medical officer. The other staff are: one nurse, one pharmacist, one store keeper, two ward boys, two sweepers, one cook and one lab-technician, one *chowkidar*, one gardener and three female ward attendants. There is need for a better TB hospital with more staff and medicine.

**TABLE III.14**

**TB PATIENTS TREATED IN THE DISTRICT HOSPITAL**

| Year | Outdoor Patients | Indoor Patients |
|---|---|---|
| 1999 | 1,32,713 | 7,264 |
| 2000 | 1,24,024 | 7,368 |
| 2001 | 98,599 | 6,499 |
| Up to Nov. 2002 | 94,284 | 6,493 |

### Private Practitioners

There are about 12 qualified doctors in Mirzapur who run their own clinics and nursing homes.

### Family Welfare Achievements under the National Family Welfare Programme

The details for the urban area achievements are given in Table III.15.

**TABLE III.15: FAMILY WELFARE ACHIEVEMENTS**

| Item | 1997-98 Number of Persons | | 1998-99 Number of Persons | | 1999-2000 Number of Persons | |
|---|---|---|---|---|---|---|
| | Target | Achievements | Target | Achievements | Target | Achievements |
| Sterilization | 672 | 592 | 600 | 569 | 735 | 769 |
| Copper T | 2686 | 2500 | 2325 | 2446 | 2829 | 2866 |
| Oral Pills | 1008 | 1144 | 1165 | 960 | 1073 | 1081 |
| CC user | 2350 | 2253 | 2360 | 2188 | 2635 | 2547 |

**Establishment of Urban Health Posts/Centres**

In the city area, one health post should be established, covering a population of 20-25 thousand, to provide preventive and promotive services and the treatment of minor ailments/diseases. This center should provide MCH and Family Planning Services, such as anti-natal registration check ups and services, natal and post-natal care to pregnant women and infants. Immunisation services should also be provided to children. Target couples should also be provided with family planning services in order to stabilize the population, as propagated by the National Population Policy Project. Counselling and IEC (Information, Education and Communication) activity along with comprehensive RCH (Reproductive and Child Health) advise should be provided. In each centre, the following staff will be required for the purpose:

| | | |
|---|---|---|
| Lady Medical Officer | - | 1 |
| Health Visitor | - | 1 |
| ANM | - | 2 (field visits and clinic) |
| Sweeper cum *Chaukidar* | - | 1 |
| Trained Birth Attendant | - | 1 |
| Clerk | - | 1 |
| Peon | - | 1 |

**Establishment of Building for Health Post**

At least four rooms are required for setting up one health post with basic needs. A minimum of 8 to 10 centres should be established.

**Mini Hospital**

Two Mini Hospitals each covering about 1 lakh population should be established to provide specific services to the patients. Each hospital should be equipped with one X-ray machine, one pathology lab and one ambulance. Indoor services of at least 50 beds should be provided in the Mini Hospital. The following staff will be required for the purpose:

| | | |
|---|---|---|
| Lady medical officer | - | 2 |
| Surgeon | - | 1 |
| Child specialist | - | 1 |
| Physician | - | 1 |
| Pathologist | - | 1 |

| | | |
|---|---|---|
| Radiologist | - | 1 |
| Anaesthetist | - | 1 |
| Staff pharmacist | - | 3 |
| Lab technician | - | 1 |
| X-ray technician | - | 1 |
| Driver | - | 1 |
| Sweeper | - | 1 |
| *Chaukidar* | - | 1 |
| Ward Boy | - | 4 |
| Clerk | - | 1 |

The number of staff is be decided as per government norms.

**IEC Activity**

IEC activity (which is not up to the mark at present) must be strengthened, as it is the backbone of all the National Health Programmes. It helps to lower the population growth to a desired level.

Awareness generation in urban areas, with a special focus on slum areas, low literacy area and lower socio-economic groups, is very essential. This activity should continue concurrently, so that better results in the national programmes could be achieved.

To promote IEC activities, an organizational structure will have to be developed. These should be:

Three rooms with one auditorium hall facility fully equipped.

| | | |
|---|---|---|
| Health Education Officer | - | 1 |
| Deputy Health Education Officer | - | 2 |
| Projectionist | - | 2 |
| Clerk | - | 1 |
| Peon | - | 1 |
| *Chaukidar* | - | 1 |
| Fully equipped publicity van | - | 1 |

Jeep with driver

## Prevalence of Reported Illnesses

Good hygiene and cleanliness have a very close relationship with health and the well being of the people. They are linked to the availability of basic utilities like water and sanitation, as also the (city's) assimilative capacity to absorb pollutants. But developing countries with rapid population growth have not equipped themselves with adequate environmental infrastructure or the supportive capacity to cope with the demands of urbanization. Consequently, both the assimilative and the supportive capacities have not been able to control pollution and maintain good sanitary conditions. With progressing urbanization, the local governments have not been able to provide adequate quantities of water, sanitation facilities, housing and enough living space through appropriate landuse planning to avoid congestion. The net result has been a rise in the levels of pollution, increasing the disease burden. However, of all the causes of pollution, environmental impacts from gaseous discharges have received greater attention than those arising from shortage of basic utilities like water supply and sanitation. But in small cities, the former is also less attended. Of late, the focus is on garbage collection and the disposal of solid waste within cities in order to promote remedial measures to prevent the spread of diseases. A recent study by the Public Health Service (of UP) has demonstrated the relationship of 22 diseases to improper solid waste management.

### Sample Survey

All over India the disease burden data for cities are not well documented. The country has not yet developed an operational system for building comprehensive data banks/MIS, on the basis of which authentic decisions can be taken. Medicos are of the view that while records for inpatients can be periodically maintained, a similar exercise for outpatients is not possible because they cannot be reached. In Mirzapur too, the disease burden data from hospitals were not available. Therefore, as a substitute, a quick sample survey of poor households was done by the National Institute of Urban Affairs, New Delhi to learn about the illnesses prevailing in Mirzapur. In a true sense, the results are based on the people's perception of the illnesses they suffer from, rather than the actual disease burden. The latter can be assessed only when data from the District Hospital are made available; though, this data will not focus only on the city, but will be for the entire district/region.

The survey covered a little less than 4.5 per cent of the city's population. It was conducted during autumn, in the months of September and October 2001, which is considered to be the

healthiest season of the year in India. Data were collected from the 12 revenue wards of Mirzapur to match the infrastructure profile and the city's demographic characteristics. Around 150 households were interviewed from each ward, except where difficulties arose in doing so. Altogether 1,776 households were surveyed, covering a sample population of 8,942 to represent the city. A purposive random sampling method was used to focus on the low-income population. From each ward, households were selected randomly from the low-income areas (based on local knowledge) and from slums.

A more appropriate sampling technique would have been to select sample households proportionate to the population size of the revenue wards. However, this was not possible as the latest wardwise population distribution was not available (the survey being done soon after the census, data were yet to be processed). Hence, an equal number of households were surveyed from each ward. Since the main objectives of the survey were to generate data for illustrating the planning process and to get a rough idea about the prevailing ailments, such compromises were made. However, this should be avoided while actually planning for the city.

**Distribution Pattern of Self-Reported Illnesses**

There were altogether 981 cases of morbidity reported, which works out to about 11 per cent of the sample population. However, it is to be remembered that the sample survey was conducted to capture low-income population where morbidity is usually very high. Altogether 26 types of illnesses were identified. The details of their frequency are given in the tables in the next two pages.

In spite of the prevailing fair weather conditions, the morbidity data gave indications of water and air pollution and lack of sanitation, with a predominance of stomach related and respiratory ailments. Besides, the high prevalence of fever and cough and cold are an indication of lack of basic medical attention and existing unhygienic conditions. The ailments arising from unhealthy lifestyle are joint pains and/or arthritis and heart and blood pressure problems that often result from lack of education or awareness and often from poverty, especially from malnutrition. Even though it is not a disease, the latter has been recorded, as it can be a cause for an illness. Malnutrition can also aggravate illnesses. Moreover, all these affect the quality of life of the citizens.

Any disease burden data can be grouped into three major categories of illnesses, such as (i) lifestyle illnesses, (ii) those arising from environmental problems, which could sometimes be infectious and (iii) other communicable diseases. Another way of grouping the illnesses would be to consider them as (i) communicable and (ii) non-communicable.

Communicable diseases can be further sub-grouped into those resulting from viral infections and others caused by lack of hygienic conditions fostering vector borne or water borne diseases like plague, malaria/filaria, dysentery or gastroenteritis and the like. Moreover, air pollution can cause all kinds of respiratory diseases arising from allergies caused by the inhalation of different chemical pollutants. The environment related diseases and the communicable diseases often overlap. However, some of the environment related diseases are non-communicable. But they lower the quality of life of the citizens.

There are also those ailments that are related to the malfunctioning of the body's metabolism that demands surgery. This aspect of medical care requires serious attention, for which there is need to provide health infrastructure and medical support. Table III.16 gives the broad categories of diseases, suggesting that maximum morbidity in Mirzapur is from environment related diseases (if fever is included to be environment related), followed by lifestyle disorders.

**TABLE III. 16: BROAD CATEGORIES OF ILLNESSES**

| | **Diseases** | **Mirzapur** | **Percent** |
|---|---|---|---|
| A | Lifestyle | 319 | **32.52** |
| B | Environmental | 515 | **52.50** |
| C | Communicable | 100 | **10.19** |
| D | Others | 47 | **4.79** |
| | **Total** | 981 | **100** |

Medical practitioners are of the opinion that if in a given society more than 5 per cent of the population suffers from morbidity, then there is need for intervention. As known from the earlier sections of this document, Mirzapur already suffers from water and sanitation problems. The disease burden data corroborates the fact that the city requires environmental improvement. Facts and figures on health infrastructure also indicate shortage of medical services. Moreover, medical reports point to high incidences of polio and tuberculosis in the region, though the former seems to have been taken care of within the city.

**TABLE III.17: WARDWISE PERCEPTION OF AILMENTS, SEPTEMBER 2001**

| Illnesses | Ward 1 | Ward 2 | Ward 3 | Ward 4 | Ward 5 | Ward 6 | Ward 7 | Ward 8 | Ward 9 | Ward 10 | Ward 11 | Ward 12 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Lifestyle/ Genetic** | | | | | | | | | | | | | |
| Joint pains/Arthritis | 36 | 13 | 6 | 5 | 20 | 5 | | | 26 | 6 | 1 | | **118** |
| Cancer | | | | | | | | 1 | | | | 1 | **2** |
| Heart/ B.P. problems | 7 | 11 | 1 | 5 | 9 | 10 | | 1 | 1 | 9 | 2 | | **56** |
| Eye | 1 | 1 | 1 | | 5 | 2 | 1 | | | | | | **11** |
| Epilepsy | | 1 | | | | | | | 1 | | | | **2** |
| Mental | 2 | 4 | | 1 | 4 | 2 | 1 | 1 | 2 | 1 | 2 | | **20** |
| Malnutrition | 12 | 4 | 3 | 2 | 5 | | 1 | 1 | 1 | | | | **29** |
| Hydrocoele | 6 | 3 | 3 | | 1 | 4 | 1 | 2 | 4 | 3 | 6 | 3 | **36** |
| Dental | | | | | | | | | 4 | 1 | | | **5** |
| ENT | 3 | 3 | | 1 | | | | | 4 | 4 | | 1 | **16** |
| Diabetes | | 1 | 1 | | 5 | 14 | | | | | 2 | 1 | **24** |
| **Sub-total** | **67** | **41** | **15** | **14** | **49** | **37** | **4** | **6** | **43** | **24** | **13** | **6** | **319** |
| | | | | | | | | | | | | | |
| **Surgical** | **5** | **7** | **2** | | **1** | **1** | | | **2** | **1** | **1** | | **20** |
| | | | | | | | | | | | | | |
| **Environmental** | | | | | | | | | | | | | |
| Malaria | 3 | 1 | 11 | 1 | 2 | | | | 1 | 25 | 2 | | **46** |
| Filaria | 3 | 2 | 1 | | | 2 | | | 2 | 2 | 2 | 1 | **14** |
| Stomach | 10 | 19 | 19 | 9 | 6 | 14 | 2 | 2 | 6 | 34 | 1 | 5 | **127** |
| Skin | | | 2 | | 2 | 3 | | | 4 | 4 | | 1 | **16** |
| Respiratory | 7 | | 3 | 1 | 11 | 7 | 2 | 1 | 15 | 10 | 3 | 4 | **64** |
| Fever | 32 | 21 | 37 | 20 | 11 | 3 | 1 | 3 | 44 | 62 | | 3 | **237** |
| Blisters | | 1 | 1 | | | | 1 | | 1 | 6 | | 1 | **11** |
| **Sub-total** | **55** | **44** | **74** | **31** | **32** | **29** | **6** | **6** | **73** | **143** | **8** | **15** | **515** |
| | | | | | | | | | | | | | |

| **Communicable** | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TB | 3 | 1 | 1 | 1 | 1 | | | | 3 | 6 | 3 | 2 | **21** |
| Polio | 1 | | | | | | | | | | | 5 | **6** |
| Chicken Pox | | 1 | | | 1 | | | | | 1 | | | **3** |
| Cough, Cold | 17 | 8 | 9 | 1 | 5 | | | | 12 | 12 | | | **64** |
| Leprosy | 1 | | | | | 1 | | | | 1 | 1 | 2 | **6** |
| **Sub-total** | **22** | **10** | **10** | **2** | **7** | **1** | | | **15** | **20** | **4** | **9** | **100** |
| | | | | | | | | | | | | | |
| **Others, including** | 8 | 1 | 1 | 2 | 2 | | 1 | | | 1 | | 1 | **17** |
| **Paralysis** | 1 | | | | 1 | 1 | | | | 3 | 2 | 2 | **10** |
| **Sub-total** | **9** | **1** | **1** | **2** | **3** | **1** | **1** | | | **4** | **2** | **3** | **27** |
| **Total** | **158** | **103** | **102** | **49** | **92** | **69** | **11** | **12** | **133** | **191** | **28** | **33** | **981** |

TABLE III.18: NATIONAL TUBERCULOSIS CONTROL PROGRAMME

| Year | Suspected T. B. Patients | | | Sputum Positive Patients | | |
|---|---|---|---|---|---|---|
| | Annual Target | Achievements | Percentage | Annual Target | Achievements | Percentage |
| 1999-2000 | 9909 | 9072 | 91.5 | 990 | 777 | 78.4 |
| 2000-2001 | 10123 | 10315 | 102.0 | 1013 | 1033 | 102.0 |
| 2001-2002 | 10578 | 11130 | 105.0 | 1058 | 825 | 78.0 |
| *Source: T. B. Clinic, Mirzapur* | | | | | | |

**Lifestyle Illnesses**

In this category people suffer mostly from joint pains/arthritis and heart ailments, followed by hydrosil problems, mental illness, diabetes, epilepsy, etc. These ailments can often be controlled through effective monitoring. In Mirzapur, these illnesses are more common in wards 1, 2, 5, 6 and 9. However, these diseases are not specific to the poor. It can happen to anybody. But generally heart ailments and joint pains are associated with either lack of exercise or the prevalence of malnutrition. Awareness is required to take precautions against such diseases.

**Environment Related Illnesses**

Morbidity from common fever appears to be the most in number (in the sample survey). It indicates that the poor often go without accurate diagnosis from lack of access to treatment. The other common ailment is stomach problems, followed by respiratory diseases and malaria. In a country like India, stomach ailments are rampant because of contamination resulting from shortage of water and lack of hygienic conditions. In Mirzapur, suction of water from the mains, through motorized pumps (because of low pressure) adds to the risk of contamination. Malaria spreads from mosquitoes that breed in stagnant water.

Many respiratory diseases are caused by air pollution. Environment related diseases could be easily prevented by improving public health conditions and by providing utilities that are in short supply. Maximum illnesses of this category are found in ward 10, followed by wards 3, 9, 1 and 2. In Mirzapur the carpet industry could be a cause for such occupational hazards.

**Communicable Illnesses**

Most of the diseases in this category can be prevented through vaccination and precaution. It means people will have to be made aware of the preventive measures to be taken, for which awareness campaigning is necessary. Facilities from the national programmes will have to be reached out to the citizens to control diseases such as TB, AIDS, Polio, etc. The WHO is monitoring the polio eradication programme in the entire Mirzapur region.

**Spatial Distribution of Illnesses**

The disease burden is spatially concentrated in the congested inner city areas and in the low-income peripheral areas of the city. This is a pattern that is common anywhere in the world. Mirzapur is no exception to this rule. However, the occurrence of illnesses is also related to the education levels, income groups and shortage of housing/utilities (especially for those living in the slums).

In Mirzapur illnesses are not so much related to specific vulnerable age groups. Generally children below 5 years of age and the older population above 65 years of age fall ill much more than the adolescents and the adult working population. In Mirzapur, children below 5 years of age constitute only 13.45 per cent of the population, whereas those within 16-58 years of age constitute 57.64 per cent (sample survey table). For an age structure that leans heavily towards the adults and the adolescents, who are supposedly the morbidity-free population, a disease burden of 10.97 per cent is considered to be very high. Though often lifestyle illnesses are not considered to be serious disorders, these can be prevented through precautions. Lifestyle diseases, even though not caused by environmental problems, require serious attention.

The Table III.19 indicates that the city's population is not very well educated and hence not aware of many health issues. For such a population, awareness is the only remedy to improve health. There is, therefore, an urgent need for health education at all stages of the life cycle.

The vertical distribution of monthly income indicates a concentration of households in the lower income groups. Less education fosters poor income, which in turn leads to a low quality of life that breeds morbidity. Mirzapur is a backward area and the only major industry is the carpet industry, which at present is not doing too well. The slow growth of population in the recent years indicates an economic depression. Hence to raise household income, economic activities will have to be generated in this region.

**Recommendations**

To reduce the disease burden/illnesses of Mirzapur, the city requires overall development. As has been witnessed from an assessment of the other sectors of development, Mirzapur needs improvements in the fields of education, environmental infrastructure (especially water supply, sanitation), economic development, health administration and city management. This is possible only when property taxes are collected regularly and municipal revenues are enhanced to improve the city's infrastructure and provide good governance to the citizens. Infrastructure development is vital for economic growth.

Pollution and lack of awareness appears to be the major causes of illnesses in the city of Mirzapur. Therefore, to reduce pollution, the water supply and sanitation facilities should be improved, as also air pollution. There is also a need to improve housing conditions and other utilities. Mirzapur is bereft of open spaces and parks. The GIS developed for the city display housing with poor structural conditions, with far too many *kutcha* housing. Also, registered water connections are few. Many households draw water illegally by drawing directly from the main water pipelines with the help of motorized pumps that also suck sewage when the sewer pipelines lie adjacent to the water pipelines. Moreover, intermittent supply of water adds to the cause of pollution, as it is a common cause of water contamination.

**TABLE III.19: WARDWISE DISTRIBUTION OF SAMPLE POPULATION CHARACTERISTICS**

| Ward No. | Ward Name | Sample Population | Morbidity | Education Levels | | Income Groups in Rs. | | Age Groups In Years | |
|---|---|---|---|---|---|---|---|---|---|
| | | ( in nos.) | % ill | % Graduates | % Illiterates | % 1-1500 | % 5000+ | % 0-5 & 66+ | % 16-25 & 26-58 |
| 1 | Vindhyachal | 704 | 22.44 | 2.56 | 59.94 | 81.45 | 0.81 | 16.90 | 53.84 |
| 2 | Shivala Mahant | 827 | 12.45 | 5.56 | 45.34 | 69.50 | 6.38 | 14.39 | 55.99 |
| 3 | Chet Ganj | 678 | 15.04 | 4.87 | 62.24 | 64.86 | 6.76 | 15.34 | 55.75 |
| 4 | Trimohani | 673 | 7.28 | 8.17 | 47.85 | 73.43 | 13.29 | 12.33 | 60.77 |
| 5 | Imam Ganj | 744 | 12.37 | 13.98 | 39.78 | 67.65 | 6.62 | 14.78 | 61.83 |
| 6 | Sankat Mochan | 779 | 8.86 | 30.04 | 25.16 | 32.39 | 31.69 | 9.63 | 64.70 |
| 7 | Tarkapur | 693 | 1.59 | 4.47 | 62.19 | 80.14 | 1.37 | 17.46 | 49.21 |
| 8 | Mahuwariya | 762 | 1.57 | 9.45 | 38.19 | 39.44 | 15.49 | 13.78 | 58.01 |
| 9 | Fataha | 792 | 16.79 | 6.06 | 50.76 | 67.38 | 5.67 | 11.49 | 55.56 |
| 10 | Station | 837 | 22.82 | 6.45 | 53.41 | 75.89 | 0 | 12.78 | 54.48 |
| 11 | Ganesh Ganj | 742 | 3.77 | 7.95 | 34.23 | 36.88 | 1.42 | 10.92 | 61.46 |
| 12 | Bathuwa | 711 | 4.64 | 3.94 | 63.29 | 42.52 | 9.45 | 12.38 | 59.91 |
| **Total** | | **8942** | **10.97** | **8.75** | **48.18** | **60.94** | **8.31** | **13.45** | **57.64** |

**TABLE III.20: WARDWISE AGE STRUCTURE**

| Ward No. | Ward Name | 0-5 | Per cent | 6-10 | Per cent | 11-15 | Per cent | 16-25 | Per cent | 26-58 | Per cent | 59-65 | Per cent | 66+ | Per cent |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Vindhyachal | 93 | 13.21 | 100 | 14.20 | 74 | 10.51 | 145 | 20.60 | 234 | 33.24 | 23 | 3.27 | 26 | 3.69 |
| 2 | Shival Mahant | 94 | 11.37 | 120 | 14.51 | 106 | 12.82 | 192 | 23.22 | 271 | 32.77 | 18 | 2.18 | 25 | 3.02 |
| 3 | Chet Ganj | 84 | 12.39 | 110 | 16.22 | 55 | 8.11 | 136 | 20.06 | 242 | 35.69 | 28 | 4.13 | 20 | 2.95 |
| 4 | Trimohani | 66 | 9.81 | 90 | 13.37 | 65 | 9.66 | 151 | 22.44 | 258 | 38.34 | 26 | 3.86 | 17 | 2.53 |
| 5 | Imam Ganj | 75 | 10.08 | 70 | 09.41 | 67 | 9.01 | 166 | 22.31 | 294 | 39.52 | 35 | 4.70 | 35 | 4.70 |
| 6 | Sankat Mochan | 49 | 6.29 | 66 | 08.47 | 85 | 10.91 | 168 | 21.57 | 336 | 43.13 | 47 | 6.03 | 26 | 3.34 |
| 7 | Tarkapur | 108 | 15058 | 109 | 15.72 | 88 | 12.70 | 124 | 17.89 | 217 | 31.31 | 33 | 4.76 | 13 | 1.88 |
| 8 | Mahuwariya | 83 | 10.89 | 110 | 14.44 | 82 | 10.76 | 151 | 19.82 | 291 | 38.19 | 23 | 3.02 | 22 | 2.89 |
| 9 | Fataha | 72 | 9.09 | 112 | 14.14 | 108 | 13.64 | 181 | 22.85 | 259 | 32.70 | 35 | 4.42 | 19 | 2.40 |
| 10 | Station | 93 | 11.11 | 126 | 15.05 | 96 | 11.47 | 140 | 16.73 | 316 | 37.75 | 37 | 4.42 | 14 | 1.67 |
| 11 | Ganesh Ganj | 66 | 8.89 | 83 | 11.19 | 88 | 11.86 | 156 | 21.02 | 300 | 40.43 | 34 | 4.58 | 15 | 2.02 |
| 12 | Bathuwa | 78 | 10.97 | 84 | 11.81 | 90 | 12.66 | 178 | 25.04 | 248 | 34.88 | 23 | 3.23 | 10 | 1.41 |
| **Total** | | **961** | **10.75** | **1180** | **13.20** | **1004** | **11.23** | **1888** | **21.11** | **3266** | **36.52** | **362** | **4.05** | **242** | **2.71** |

For mitigating air pollution within the city, there is an urgent need to introduce fuel regulations, widen roads, eliminate road encroachments by informal economic activities, minimize industrial pollution and plant trees and devise regulatory measures to prevent air pollution in the carpet industries. All kinds of congestion should be avoided to bring down air pollution. The inner city of Mirzapur is very congested. With the onset of the Mirzapur-Vindhyachal Urban Area development, the inner city areas can be decongested by dispersing housing to the peripheral areas of the city. At present the developed area of the city is only 29.2 per cent. The built area of the city can be expanded and intra-city mobility should be encouraged. In other words, there is a need to de-densify population concentration and human activities. To do so, effective residential area planning is required, both at the city level and at the neighbourhood level. The chart below suggests the kind of institutional attention that can be given, based on the type of ailment, in order to reduce morbidity.

**TABLE III.21: SUGGESTED INTERVENTIONS**

| Diseases | Nature of Intervention | Institutional Responsibility | Strategy to be Adopted | Remarks |
|---|---|---|---|---|
| Lifestyle/ Genetic | Awareness for precautions and knowledge for monitoring | WHO/International Agencies, Local Governments, Educational Institutions | Campaigning, Workshops, Seminars and IEC materials | Guidelines should be issued for monitoring. |
| Environment related | Upgrading environmental infrastructure and improving city management | State and Local Governments to enhance supportive and assimilative capacities | Sectoral development and city improvement through better revenue generation | Legislations preventing nuisance and pollution will have to be instituted. |
| Communicable | Improving public health conditions and preventing infections through vaccinations | Local Government and National Programmes of the Health Ministry | Good governance through community participation | Preventive measures will have to be framed and norms developed and enforced |
| Inevitable Disorders | Treatment | District and Local government's Hospitals/Health facilities | Issue of Health Cards for regular monitoring | Facilities should be provided for regular checkups |

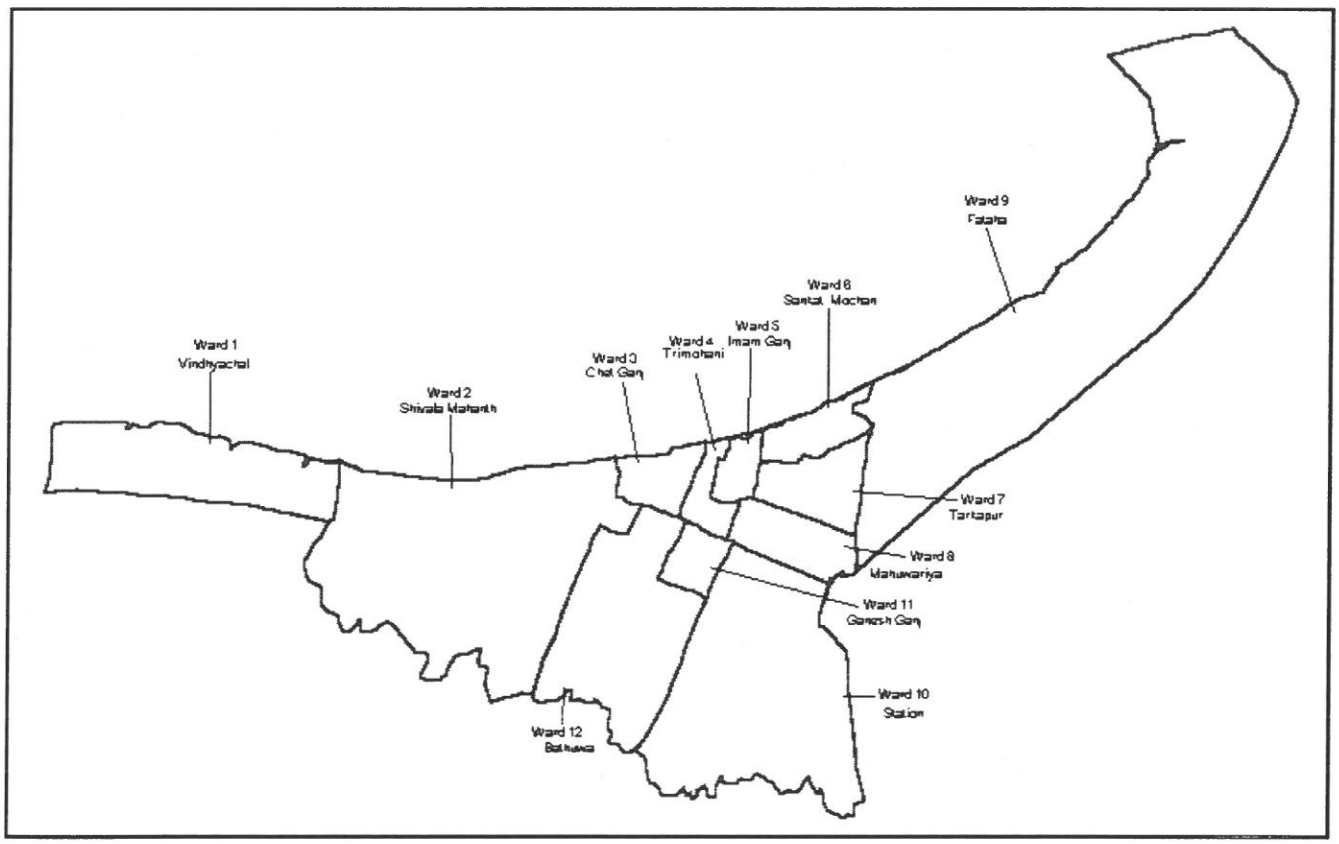
## The Municipal Information System (from www.mirzapur.net)

The Mirzapur Municipality is making a transition from the old hand-entry record keeping system to a new computerized (E-Babu) public access system. The transition is well underway, but still needs continuous attention and updating of data for years to come, to make Mirzapur an E-Municipality.

Tax billing, collection and assessment records have been completely computerized since 1996. The E-Babu intranet in the new tax collection offices has been set up to allow public access to current tax records. Now the next step is being taken by setting up an internet record access system, whereby the public can access their records without going to the municipality or interacting with a clerk (babu).

Mirzapur is divided into 12 wards for purposes of revenue collection, as shown below.

**MIRZAPUR CITY REVENUE WARDS**



Individual revenue wards were extracted from the city base map and property enumeration details were incorporated. When the detailed maps were linked with the property tax records, the first municipal GIS in India was established.

The enumeration identified 44 per cent more properties than currently on the tax records. The first use of the new GIS was in developing a methodology for property assessment. Information was available for each of the 610 neighborhoods in the city. However, there were too many neighborhoods to treat individually. An efficient and effective approach to property assessment was to divide the 610 neighborhoods into 7 area types. Other factors such as accessibility were added and easily checked through the GIS. Base property values and adjustment factors were established for the entire city. Finally, a random sample of properties was checked by manual calculation to verify the formula assessment values.

The effort to fully implement a complete property assessment has been difficult and involves issues far beyond computer technology. The most important point is that without the use of GIS and statistical software, it is almost impossible to conduct a scientific property tax assessment after decades of neglect.

Despite the difficulties, the Mirzapur GIS (created by the ICDP programme of the Ganga Action Plan) has made it possible for the elected city council members of the assessment committee to fully evaluate the assessment formula and to recommend their own coding system to be used within that formula.

**Infrastructure System Records (www.mirzapur.net)**

Existing infrastructure records for water distribution and drainage were added to the new GIS. This was the traditional approach of using existing paper records as layers on the GIS. Since the Mirzapur GIS was not an academic exercise, but a practical tool for implementing a property reassessment after 35 years, the street network was not initially the map foundation. After collecting the existing infrastructure information, the usefulness of a street network became apparent.

The new infrastructure database on the GIS was first used to extract a water distribution network for modeling. Based on the results of this effort a programme of water supply improvement and regularization of connections was envisioned. However, water connection records were very old and badly maintained. These records had to be updated and computerized to add to the GIS to

reconcile with current property tax records. This was possible for only a part of the water connections.

Other records had to be corrected through field surveys. Maps and record printouts from the GIS were often used by the water department staff to update information. Updating records was the foundation for identifying the actions needed to regularize all water connections and to improve the water distribution system. A pilot programme to achieve this objective was planned and has been monitored on a regular basis through the GIS.

The infrastructure requirements for the Mirzapur Model City Programme are modest in terms of quantity, but generating the revenues for even these costs is very ambitious. Therefore, the ICDP project has assisted in planning some major, but limited investments for additional water supply improvement and related street drain rehabilitation. The GIS was used to identify the specific infrastructure links where the least cost integrated water and drainage improvements could be made.

Since the provision of tube wells is also included, it is important that precautions be taken in selection of drilling sites. This is possible with the records of previous drilling which have now been added to the GIS.

The GIS has also been used to promote, support and monitor the community co-financing programmes for area development, as mentioned in the section on community participation.

The greatest visible achievements of the project have been in the reform of solid waste collection procedures and equipment. All the routes of vehicles have been added to the GIS and are being used to monitor and rationalize staff deployment. Now the GIS is being used to plan a new intervention to provide garbage cans to all houses along collection routes.

**The Future Potential of the System (www.mirzapur.net)**

The scope for using the Mirzapur GIS is great. Already new building permits are being scanned and coded into the GIS to keep registrations and assessments up to date. A joint effort with the Mirzapur Post Office to rationalize the street addressing system has also been started with the entry of mail routes as a layer in the system. The district property ownership maps have been obtained and it is planned to add them and integrate their data with the municipal property

registration and tax systems. Tremendous scope exists for further expansion to the GIS and for other parts of India to benefit from the Mirzapur GIS. Visitors from all over the country routinely come to visit the project to find out how simple and effective the approach is.

## Education

Even after half a century of independence, Mirzapur still suffers from poor educational achievements. Only 48.1 per cent of the population is literate. The teaching system of the city is far from satisfactory, even though four levels of education are available in the city:

- Basic Education
- Secondary Education
- Higher Education
- Technical Education

### Basic Education

Basic education is provided at two levels:

- Primary Level
- High Primary Level

Primary Level

The primary level provides education from class1 to class 5. Four types of schools are being run in the city for the purpose.

- Primary schools associated with the Basic Education Council*.
- Recognized Primary Schools**
- Primary schools attached to secondary schools***.
- The schools falling under other categories.

* *The Basic Education Council related schools are run by the Uttar Pradesh Basic Education Council and financed by the government of Uttar Pradesh.*

** *The Recognized Primary Schools are run by voluntary organizations after getting recognition from Basic Education Department or from some other valid council.*

*** *Some of the government and other schools attached with recognized secondary schools also run primary classes.*

## TABLE III.22: NUMBER OF PRIMARY SCHOOL STUDENTS AND TEACHERS

| Category of Primary School | No. of sanctioned schools | No. of schools being run | No. of closed schools | No. of students studying | No. of sanctioned posts of teacher | Number of teachers working | Vacant posts of teachers |
|---|---|---|---|---|---|---|---|
| Basic Education Council | 55 | 36 | 19 | 6020 | 275 | 102 | 173 |
| Recognized by Basic Education Council | 102 | 102 | - | 17050 | 408 | 408 | - |
| Attached to Recognized Schools | 07 | 07 | - | 1500 | 34 | 34 | - |
| Others | Teaching up to primary level is also imparted by a number of unrecognized schools on commercial basis and it is not possible to give details. Some schools also run pre-primary classes on commercial basis and information about them is not available. | | | | | | |

## TABLE III.23: CONDITION OF PRIMARY SCHOOL BUILDINGS

| Category of primary school | With private building | With hired building | Without building | Condition of building | Remarks |
|---|---|---|---|---|---|
| Basic Education Council | 20 | 16 | 19 | Very critical | Almost 50% of the buildings are congested and unhealthy |
| Recognized by Basic Education Council | 08 | 94 | - | Normal | |
| Attached to Secondary schools | 07 | - | - | Good | |

## TABLE III.24: AVAILABILITY OF BASIC UTILITIES IN PRIMARY SCHOOLS

| Category of Primary school | No. of schools | Avail-ability of drinking water | Electric connections | Condition of urinals | Condition of toilets | Sweepers | Class IV employees |
|---|---|---|---|---|---|---|---|
| Basic Education connected with Council | 36 | 36 | - | 36 (tempo-rary) | Does not exist | None | None |
| Recognized by Basic Education Council or Others | 102 | 102 | 102 | 102 | Poor | Part time (102) | 102 |
| Attached to Secondary Schools | 07 | 07 | 07 | 07 | Poor | 07 | Not appointed separately. Work is done by the employees appointed for secondary level. |

**TABLE III.25: AVAILABILITY OF WOODEN FURNITURE AND TEACHING-CUM -ANCILLARY MATERIALS IN PRIMARY SCHOOLS**

| Category of Primary schools | No. | Wooden furniture for teachers | Seating arrangement for students | | Black board | Maps/ Charts | Science material | Sports material |
|---|---|---|---|---|---|---|---|---|
| | | | Furniture | Floor mats | | | | |
| Basic Education Council Schools | 36 | Inadequate | - | Partial | Yes | - | - | - |
| Recognized Schools | 102 | Available | Available | Available | Yes | Partly available | | |
| Attached to Recognized schools | 07 | Available | 05 | 02 | Yes | Available | Availabl e | Not available |

High Primary level

At this level education is provided from class 6 to 8. There are three types of schools in Mirzapur for this purpose:

- Pre-secondary Basic Education School associated with the council.
- Recognized Pre-secondary schools.
- Teaching arrangement for classes 6 to 8 being conducted in the secondary schools.

Pre-secondary schools associated with the council are run by Uttar Pradesh government through the Basic Education Council of U.P. Recognized pre-secondary schools are also being run by voluntary organizations. The arrangement for pre-secondary classes conducted under secondary schools is made by the voluntary organizations that run those classes.

**TABLE III.26: NUMBER OF PRE-SECONARY SCHOOLS, STUDENTS AND TEACHERS**

| Pre-secondary school | No. of sanctioned schools | No. of schools being run | No. of closed schools | No. of students studying | No. of sanctioned posts of teachers | Teachers working | No. of vacant posts of teachers |
|---|---|---|---|---|---|---|---|
| Pre-secondary Basic Education council schools | 05 | 05 | - | 600 | 35 | | 19 |
| Recognized Pre-Secondary schools | 25 | 25 | - | 4250 | 125 | 125 | - |
| Classes from 6 to 8 in recognized schools | 20 | 20 | - | | There are no separate posts. Secondary level teachers are teaching. | | |

**TABLE III.27: CONDITION OF PRE-SECONDARY SCHOOL BUILDINGS**

| Category of Pre-secondary School | With private buildings | In hired buildings | Without building | Condition of building | Remarks |
|---|---|---|---|---|---|
| Pre-secondary Basic Education Council Schools | 04 | 01 | - | Critical | Generally run in congested buildings. |
| Recognized Pre-Secondary Schools | 08 | 17 | - | Normal | |
| Classes from 6 to 8 class in recognized Schools | 19 | 1 | - | Normal | |

**TABLE III.28: AVAILABILITY OF BASIC UTILITIES IN THE PRE-SECONDARY SCHOOLS**

| Category of Pre-secondary school | No. | Availability of drinking water | Position of electric connec-tions | Condition of Urinal | Condi-tion of toilets | Sweeper | ClassIV employees |
|---|---|---|---|---|---|---|---|
| Pre-secondary Basic Education Council Schools | 05 | 05 | 01 | 05 (temporary) | None | None | 05 |
| Recognized Pre-Secondary Schools | 25 | 25 | 25 | 25 | 25 | 25 (part-time) | 25 |
| Attached to Recognized Schools | 20 | 20 | 20 | 20 | 20 | 20 | 20 |

**TABLE III.29: AVAILABILITY OF WOODEN FURNITURE AND TEACHING-CUM-ANCILLARY MATERIALS IN PRE-SECONDARY SCHOOLS**

| Category of Pre-secon-dary schools | No. | Wooden furniture for teachers | Seating arrangement for students | | Black board | Maps/ Charts | Science material | Sports material |
|---|---|---|---|---|---|---|---|---|
| | | | Furniture | Floor Mats | | | | |
| Pre-secondary basic Education Council Schools | 05 | Inadequate | - | Partly Available | Yes | - | - | - |
| Recognized Pre-Secondary Schools | 25 | Partly Available | Available | Available | Yes | Partly available | | |
| Attached to recognized Schools | 20 | Available | Available | Available | Yes | Available | Available | Not Avail-able |

Specific Schools:

Madrassa: An Arabian school, named Madrassa, is being run as a recognized school. In this school adjoining a mosque, religious education is imparted.

Sanskrit School: A Sanskrit school is being run by the Basic Education Council. This school has no building and has only one post of teacher. It is being run in the Vindhya Vasini temple.

Informal Education Centres: These centers are run by voluntary organizations for child labourers and for those children who are deprived of education facilities. However, the society questions their utility and relevancy.

Courses:

The courses for primary and pre-primary level are decided either by the Basic Education Department or by other valid institutions.

Teacher-Student Ratio:

- In the Basic Education Council Primary Schools, the teacher-student ratio is 1: 60, whereas the prescribed norm is 1: 40.
- At the level of recognized Primary Schools attached to the Secondary schools, the ratio is about 1: 40.
- In the Pre-Secondary Basic Education Council Schools there are no teachers for the specific subjects like Science, English and Sanskrit.

Buildings:

- Due to lack of buildings, 19 Basic Education Council monitored Primary Schools (out of a total of 55) are not functioning at all. Around 20 schools are somehow running in dilapidated private buildings. About 16 schools are running in hired dilapidated buildings in an unhealthy atmosphere.
- The pre-secondary school buildings are also in dilapidated conditions.
- The buildings of some of the recognized schools just about meet workable conditions.

The DPEP of the World Bank has given some money to improve the physical status of the schools.

Availability of Basic Utilities in the Buildings:

- Drinking water is available in all the Pre-secondary schools. The Council schools have temporary urinals. Arrangements for toilets, sweepers, class four employees and electricity are generally absent in these schools.
- Arrangements for drinking water, urinal, toilet, part-time sweepers, class four employees and electricity are available in almost all the recognized schools.
- All the above-mentioned facilities are available in the pre-primary and pre-secondary schools affiliated to the secondary schools. In these schools the employees of the secondary level education manage the work of sweepers and class four employees.

Availability of Wooden Furniture and Teaching and Ancillary Materials:

- The chairs and tables are not available in the required number even for the teachers in the Basic Education Council schools. The students generally sit either on jute bags brought by them from their homes or on worn out floor-mats of the school. Teaching material, ancillary teaching material and sports materials are not available.
- In recognized schools wooden furniture is available for the teachers, but for the students the arrangement is just workable. Teaching and ancillary teaching materials are inadequate. Sports material is also inadequate.
- In the schools attached to the secondary schools, wooden furniture is available for the teachers. In Government schools even the floor-mats are not available for the students. Teaching, ancillary teaching and science materials are available. Sports materials are not available.

Courses

The courses of primary and higher primary level are not in conformity with time and space. They do not include adequate hygiene and health education, when it is known that habits are formed at this level.

Review

Due to the negligence of the government, the Basic Education Council affiliated schools have lost their utility due to lack of teaching, ancillary teaching materials and basic utilities. Only the low-income groups send their children to these schools because of their helplessness.

The private schools with untrained teachers attract students through marketing tactics, even when these institutions are not qualified.

Recommendations for Improving Basic Education

- It is necessary to fill in the vacant posts of teachers, including those for special subjects in the Basic Education Council schools, for improving the teacher-student ratio (according to the norms).
- Arrangements may be made for land and construction of building on it, for the Basic Education Council schools that are either without buildings or are closed.
- Arrangements for repair of the dilapidated private buildings of Basic Education Council schools are required.
- The hired and the dilapidated buildings of Basic Education Council schools should be changed. For the purpose, power should be vested in the local administration. At present, this obligation rests with the government.
- For the primary and pre-secondary schools, the norms relating to the buildings should be strictly enforced.
- The arrangement for electricity, urinal, toilets, part-time sweepers and class IV employees in Basic Education Council School should be ensured.
- Proper arrangement for seating of the students and for teaching, ancillary teaching and sports material should be made in Basic Education Council schools.
- At least one school is required for every 1000 people. Thus, in addition to the existing 145 schools, 87 more primary schools are required.
- In the 50 pre-secondary schools in Mirzapur city, teaching arrangements should be made for a maximum number of 10,000 students. For the remaining 3600 students, at least 18 new pre-secondary schools are required.
- Teachers should be trained in the new methods of teaching.

- Schemes such as Operation Black Board, DPEP, SOPT training etc. have so far operated in the rural areas only. These should also be implemented in urban areas.
- The teachers should not be made to do the jobs other then that of teaching.
- The courses should be revised to provide adequate instructions on hygiene and health education.

**Secondary Education**

Secondary education in Mirzapur city is available at two levels:

1. Secondary Level: This level provides teaching arrangements for class 9 and 10.
2. Senior Secondary Schools: At this level, teaching arrangements are made for class 11 and 12.

For secondary level teaching, two types of schools are functioning in the city:

Government: Run by the state government and recognized by Secondary Education Council.

Non-Government: Run by voluntary organizations and recognized by some valid government recognized council.

**TABLE III.30: NUMBER OF TEACHERS AND STUDENTS IN SECONDARY (CLASS IX & X) SCHOOLS**

| School | Function-ing (No.) | No. of students studying | No. of sanctioned posts of teachers | Teachers working | Vacant posts of teachers | Remarks |
|---|---|---|---|---|---|---|
| Govt. Secondary | 3 | 1600 | 50 | 48 | 02 | These teachers also teach class 6 to 8 students. |
| Recognized secondary | 17 | 7816 | 260 | 234 | 26 | |

**TABLE III.31: NUMBER OF TEACHERS AND STUDENTS IN SENIOR SECONDARY (CLASS XI & XII) SCHOOLS**

| School | Function-ing (No.) | No. of students studying | No. of sanctioned posts of teachers | Teachers working | Vacant posts of teachers | Remarks |
|---|---|---|---|---|---|---|
| Govt. Secondary | 3 | 980 | 21 | 14 | 07 | The post of Principal in Inter (Girls) College Vindhyachal has been lying vacant for 6 years. |
| Recognized secondary | 17 | 7816 | 260 | 234 | 26 | |

**TABLE III.32: CONDITION OF SECONDARY SCHOOL BUILDINGS**

| School | Number Functioning | With private building | In hired building | Condition of Building | Remarks |
|---|---|---|---|---|---|
| Government secondary | 3 | 3 | - | 1 Under construction<br>1 Dilapidated<br>1 Normal | Govt. schools are particularly in poor condition |
| Recognized secondary | 17 | 16 | 1 | 1 Hired (dilapidated) 16 inadequate in space | |

**TABLE III.33: AVAILABILITY OF BASIC UTILITIES IN SECONDARY SCHOOL BUILDINGS**

| Schools | Functioning (number) | Availability of drinking water | Electricity Arrangements | Urinals | Toilets | Sweep-ers | Remarks |
|---|---|---|---|---|---|---|---|
| Government secondary | 3 | 2 | 1 | 2 | 2 | 2 | No arrangement in Govt. Girls Inter College Vindhyachal |
| Recognized secondary | 17 | 17 | 17 | 17 | 17 | 17 | |

Teacher-Student ratio

Secondary schools also hold pre-secondary classes. The secondary school teachers also teach pre-secondary classes. As a result, the teacher-student ratio is high at the High School level (around 1:70). Due to lack of teachers in specific subjects at the Intermediate level, it has not been possible to make proper arrangements for teaching. For example, only one lecturer is available for teaching 850 students of Chemistry in the Government Inter-College.

Buildings

The teaching rooms are very small compared to the large number of students admitted to the various classes. The conditions of the buildings are also not very good. The availability of human utilities is also inadequate. The buildings of the government schools are in poor condition.

Availability of Wooden Furniture and Other Teaching Materials

Adequate wooden furniture is not available in any school for seating more than 50 per cent of the registered students. The condition of the government schools is even worse. Educational and

sports materials, as also scientific instruments, are inadequate or absent. Playgrounds grounds are there in only 6 out of 20 schools.

Courses

Hygiene and Health are not adequately included in the Secondary level courses.

Recommendations for Improving Secondary Education

- There is a need for 10 new schools in addition to the existing 20 Secondary schools (for a population of about 3 lakhs in and around the city).
- The vacant posts of Teacher should be filled immediately.
- Arrangements should be made for lecturers and teachers for specific subjects.
- It is necessary to ensure adequate arrangements for buildings either through new construction or the repair of existing ones on the basis of requirements.
- Private tuitions should be banned.
- Adequate arrangements for wooden furniture for the students should be made.
- Provision of teaching materials, scientific instruments and sports material should be ensured.
- It is necessary to make arrangements for computer education in each school.
- Arrangements should also be made from time to time for imparting special training to the teachers to make them aware of the new methods of teaching.
- The norms of Section 9(4) should be strictly enforced, while recognizing schools.
- Co-curricular activities should be made compulsory.
- Hygiene and health education should be included in the course as a subject. It should contain one paper and clearing that paper should be mandatory.

**Higher Education**

Colleges/ Institutions for higher education in Mirzapur are:

*K.B. Post Graduate College*

Facilities for B.A., B.Sc. M.A. M.Sc. and B.Ed. education are available in this college.

*G.D. Bimmani Post Graduate College*
The facility of teaching for B.A., B.Com. M.A. and M.com. is available in this college.

*Kamla Maheshwari Post Graduate Women's College*
In this college teaching facilities for B.A. and M.A. course are available for women.

*G.D. Binnani Institute of Management*
Teaching arrangements for MBA course are available in this Institute.

*Ideal Institute of Management*
Teaching arrangements for B.B.A. courses are available in this Institute.

All the above Institutes are affiliated to Poorvanchal University, Jaunpur.

*Shri Sanatan Bairav Shanker Brahm Sanskrit College: -*
It is affiliated to Sampurna Nand Sanskrit University, Varanasi. This college has arrangements for Graduate and Post Graduate education, detailed out in Table III.33.

**TABLE III.33: EDUCATION LEVELS**

| Classes | Number of students studying | | Number of Lecturers |
|---|---|---|---|
| | Graduates | Post Graduates | |
| B.A. | 7234 | | Full-time 102, Part-time 34. The Institutes have their own separate arrangements. |
| B.Com | 540 | | |
| B.Sc | 892 | | |
| B.Ed | 111 | | |
| B.B.A. | 60 | | |
| Shastri | 73 | | |
| M.A. | | 1146 | |
| M.Com. | | 160 | |
| MSc. | | 74 | |
| MBA | | 160 | |
| Acharye | | 34 | |
| Total | 8910 | 1574 | |

Table III.34 gives the details of the available space and furniture of some of the institutions, as well as the ownership of the buildings.

**TABLE III.34: BUILDINGS AND WOODEN FURNITURE IN INSTITUTIONS**

| Institution | Building | Space in Building | Wooden Furniture |
|---|---|---|---|
| K.B. Post Graduate College | Private | Inadequate | Inadequate |
| G.D. Binnani College | Private | Inadequate | Inadequate |
| Kamla Maheshwari women college. | Private | Inadequate | Inadequate |
| G.D. Binnani Institute of Management | Private | Adequate | Adequate |
| Ideal Institute of Management | Hired | Adequate | Adequate |
| Shri Sanatan Bhairav Shankar Brahm College. | Govt. | Inadequate and tattered | Inadequate |

Courses

Courses are decided by the Universities.

Review

Lecturer-student Ratio

Lecturer-student ratio is very high. The work is being managed by making provision for part-time lecturers.

Building and Wooden Furniture

The buildings of all the three government colleges are inadequate when compared to requirements. Space and wooden furniture in the Institutions are not sufficient. The condition with regard to building, equipments and wooden furniture in the Sanskrit College is highly deplorable.

Availability of Teaching Material and Human Utilities

Available in all the institutes.

**TABLE III.35: BUILDING CONDITIONS AND AVAILABILITY OF TEACHING MATERIAL**

| Name of Trade | No. of students | Availability of Instruments | Workshop | Condition of Building |
|---|---|---|---|---|
| Civil | 37 | Adequate | Adequate | Windows, doors, false ceiling and boundary walls require repair. |
| Electrical | 79 | Adequate | Adequate | |
| Mechanical | 86 | Adequate | Adequate | |

Sports Grounds

Available in one college

Hostels

There is no hostel for the students seeking higher education.

Courses

Hygiene and Health education is not included in the courses at any level.

Recommendations Regarding Higher Education.

It is necessary to conduct Law (LLB) classes.

M. Sc. classes could be run for other subjects besides mathematics and chemistry.

- Arrangement should be made for agricultural science.
- Classes for library science should be run.
- Medical, Veterinary and Engineering colleges are required to be set up.
- Every college should have separate sports ground.
- Hostels are necessary for students undergoing higher studies.
- A compulsory subject on cleanliness, health, education and individual and collective health should be included in the course at every level.
- The number of regular students for higher education in the city is 10,500. A considerable number of students are unable to get admission for higher studies. A university is required to be set up in Mirzapur.

**Technical Education**

Two Technical Institutes are functioning in Mirzapur city.

Government Industrial Training Institute

This Institute has training arrangements for fitters and mechanics in different trades. It has its own building equipped with all the facilities.

Government Polytechnic

Three years Diploma Courses in Civil, Electrical and Mechanical Engineering are being conducted in this Institute. The details are as under:

**TABLE III.36: POSTS AND TEACHERS OF TECHNNICAL INSTITUTES**

| Post | Sanctioned Posts | In Position | Vacant Posts |
|---|---|---|---|
| Teachers | 16 | 8 | 8 |
| Professors/Lecturers | 29 | 22 | 07 |

Building and Premises

Government Polytechnic has its own large premises and a beautiful building equipped with all the facilities.

Teachers and students

In all the three courses, a total number of 202 students are studying. However, a total number of 15 posts of Professors/Lecturers are lying vacant.

Suggestions

- The windows, doors, false ceiling and boundary walls should be repaired.
- The vacant posts of Teachers, Professors and Lecturers should be filled.
- The polytechnic should be upgraded to an engineering college.
- Arrangement should be made to fill the vacant posts.

## Tourism and Transportation

The historical background of Vindhyachal region dates back to the days of Manu, which is almost mythological. Subsequently it was the capital city of the Nagvanshi kings. Evidences of it are still found. The present area of Kantit was formerly known as Kantipuri and was the seat of power. From time to time ancient rulers have ruled this area, sometimes joining it to Magadh in the east and at other times coalescing it with Allahabad under the muslim rule. Along with the historical rules came the different cultures that developed the industrial businesses of the region. The two renowned industries of the area were carpets/durries and stone, brass and copper utensils that were of international repute. However, both the industries are not doing well now. There are also many handicraft industries that attract tourists.

The region is situated on the edge of the Vindhhyachal mountains, with scenic beauty and the river Ganga adding to its glory. Also, the decorated ghats of Mirzapuz draw both tourists and pilgrims. These ghats promote water transportation as well. The river Ganga is navigable from Mirzapur to Varanasi. Boating has become a major means of entertainment. The wells, tanks and the natural springs of the area have also been points of attraction.

As mentioned before, Mirzapur has been a center of attraction for pilgrims from the entire region. This area is shrouded by both mythology and ancient history. The ancient temple of Vindhyavasini is the major attraction. A bi-annual fair is also held during each *Navaratri*, which is attended by around ten lakh pilgrims each time. There are also the temples of Kali Khoh, Ashtbhuja, Taradevi, Rameshwaram Mahadev, Akori, Bhairav, Vamandev, Boodhenath, Panch Mukhi Mahadev, Tarkeshwarnath. The muslims also have a few dargahs, such as Kantit Shareef and Ghore Shaheed. There are also one or two gurudwaras and churches, as also *ashrams* and *maths*.

The convenient location of the city makes it easy for the pilgrims to visit the city. Connected by the main line of the Northern Railway and by two National Highways, the city of Mirzapur is very easily accessible. However, problems of transportation arise within the city at the time of the fairs. With the intra-city roads being narrow, the city faces traffic congestions during the fairs. Neither are there many hotels to accommodate the vast number of tourists and pilgrims. In fact, the city's heritage can, with a little bit of effort, become a major employer. For this, tourism will have to be promoted, along with developments in transportation.

## SECTION IV

## IMPLEMENTING THE HEALTHY CITY PROJECT

As mentioned in the first section of the report, the Healthy City Programme has been in operation in several cities of India. In the initial years of implementation, the focus was on metropolitan cities. Subsequently, the concept was applied by the local governments of smaller cities and towns at the behest of WHO and the Ministry of Urban Development and Poverty Alleviation of the Government of India. The task of facilitating the Mirzapur Healthy City Project fell on the National Institute of Urban Affairs (NIUA), New Delhi. The city of Mirzapur was selected by NIUA for its rich database, developed through a GIS System by the ICDP Project, which was part of the Ganga Action Plan that selected Mirzapur as one of the towns to be improved for pollution control and environmental protection. Several efforts have been made for pollution control in the first phase of Mirzapur's Ganga Action Plan. The second phase of the programme for the city has also been proposed and is being processed. Efforts were particularly focused on improving the water supply and sanitation (both solid and liquid waste). To generate revenue for the municipality to continue with the improvement, the ICDP had done a property survey, which was virtually like a census of physical infrastructure and developed an information system of all such infrastructure that would help the city to improve environmental hygiene. NIUA, therefore, took the opportunity to synergise the Healthy City Project with the ICDP database, for the overall development of the city to improve the quality of life and to reduce the disease burden.

The first step taken to implement the project was a reconnaissance survey to understand the administrative set-up and the management of the city in relation to its political goals. An inventory of the work done so far, in this direction, was also done. A Brainstorming Workshop was subsequently arranged, to introduce the Healthy City concept and to get a feedback of what the citizens of Mirzapur think about the concept and the issues that emerge from such a predicament. Highlights of the Brainstorming Workshop are given below.

Understanding that the main objective of the Healthy City Project is to build a lobby to improve environmental hygiene in order to reduce the disease burden, a multi-sectoral approach was adopted by inviting people from all sections of the society and including all sectors of

development. Participants came from the State and the Local Governments, NGOs and educational institutions. Doctors, lawyers and other eminent citizens were also invited.

**HIGHLIGHTS OF THE REGIONAL BRAINSTORMING WORKSHOP HELD AT MIRZAPUR ON DECEMBER 14-15, 2000**

There was an overwhelming response to the Brainstorming Workshop held in Hotel Jahnvi at Mirzapur. About 45 participants attended the workshop, even though only 30 experts and officials were invited. Mirzapur being a small city, news spread very fast! Moreover, the local press had come to know from the citizens about the workshop and had published information on the project, indicating that citizens' participation was being emphasized. As a result, citizens who were interested, but not invited, also came to participate. It was very encouraging to meet such citizens who were eager to discuss and help in the planning process (list of participants in Annexure I).

All the participants were from Mirzapur. The Chairman of the Municipal Council and the local MLA took keen interest and participated actively in the deliberations of the workshop on both the days. There was a very good response from the State government officials. The workshop was inaugurated by the Divisional Commissioner of Vindhyachal Division. Other eminent speakers at the inaugural session were the District Magistrate, the Chairman of the Municipal Council and the MLA. The second day's deliberations began with a panel discussion on Health and its relationship with Development. The panelists were the Chief Development Officer, the Team Leader of the Integrated Community Development Programme and the Director of the Binani Ghanyasham Das Institute of Management, which is a private institution. The two resource persons, for introducing the Healthy City concept and that of community participation, were the Project Coordinator from NIUA and an expert on Community Participation from Delhi.

As the workshop programme (Annexure II) will indicate that the speakers were selected from among the citizens, to talk on Mirzapur and the prevailing conditions. The topics discussed were those related to health and hygiene. The speakers were mostly from among the local government officials, educationists, doctors, NGOs and senior citizens having knowledge about the city.

A lecture was delivered on the concept of Healthy Cities by the Coordinator of the project. The main objectives of the project were clearly spelt out, explaining that the focus of the project will

have to be on how to reduce the disease burden through an improvement in environmental hygiene. A Background Note was also distributed. Detailed discussions were held on the existing infrastructure related to sanitation and water supply.

A session on Participatory Methods was conducted by a Delhi-based expert on community participation, explaining the different types of participatory methods/approaches, its effectiveness, the skills to be acquired by the facilitator, the factors influencing motivation, ways of initiating leadership, the different steps of participatory methods and so on. Local participatory methods used by the NGOs were also discussed.

A special feature discussed was heritage and tourism. Mirzapur is renowned for its Vindhyavasini temple. Apart from the regular visits, the people of the region hold fairs in celebration of the goddess twice a year, for which around 10 lakh pilgrims visit the city. These fairs generate traffic, transportation and other city management problems like sanitation, boarding and lodging, etc. during the time of the fair. Management solutions for transportation, accommodation, etc. during the festivals/fairs were also discussed. The scope to develop this area (in totality) for tourism is being considered.

The workshop also initiated the Healthy Cities Plan. Sectors of development were prioritized and a planning team was formed to write status reports, in order to identify the gaps in development. The idea was to build the Plan on the basis of some background information on the existing infrastructural resources and their conditions. A peculiarity of Mirzapur was that the status papers could not be prepared by one person. Several officials had to be grouped together to write on each sector. The net result was the formulation of a very large planning team. However, since the entire planning process was to be looked after by the Local Government (a work readily accepted by the Chairman of the Municipal Council), it appeared that the work would be coordinated well. The sectors on which the status papers were written were:

- Safe water
- Sanitation and Drainage
- Environmental Pollution
- Education
- Community Participation
- Population

- Landuse and Location of Mirzapur
- Health Infrastructure, Health Care and Disease Burden
- Heritage, Tourism and Recreation

(Details of work allocation and the process of prioritizing the sectors are in Annexure III).

A Healthy Cities Project Office was also created. The venue for the office was initially to be the I.C.D.P. (Institutional and Community Development Proramme) premises, with the I.C.D.P. Team Leader coordinating the work. A request for a permanent office was made to the Chief Development Officer, who promised to provide an office in one of the government buildings that was still under construction. The workshop wrapped up with the idea that many more meetings will have to be conducted to look into the progress of the writing of the status reports. This was to be monitored by the I.C.D.P. Team Leader and the Chairman of the Municipal Council.

A high point of the Mirzapur Project was that the Honourable MLA from the city was a renowned cardiologist, with a degree in law. The support of the Chairman of the Municipal Council and that of the Honourable MLA, along with the Government Officials and the I.C.D.P. Team Leader made a very good beginning. Moreover, Mirzapur being a small city, the homogeneous population was an asset to continue with the work. The I.C.D.P. and the DUDA (after the Seventy-Fourth Amendment of the Constitution) offices had already made several efforts to educate the community in hygiene and environmental health. It was thought that this factor would be of immense help during community participation at the grassroots level, at a later stage of the planning process, as already trainers had been training the community on the maintenance and monitoring of the environmental conditions. The ultimate focus would be on the individual's health and the quality of life in relation to the environment and the community (sketches attached in Annexure IV).

A factor to be noted is that most of the deliberations were in Hindi, which is the medium of communication in the State of Uttar Pradesh. Hence, the majority of the papers were written in the local language and had to be translated for further processing. This required more time and money.

During the workshop a demand was made by the citizens for campaigning of the concept. It was decided that this would be done in two ways: in the schools through poster competitions and through the traditional style of proclamation by beating of drums in the streets, to draw the

attention of the common people, to talk to them on public health and sanitation. As Mirzapur is a small town, this method of campaigning is possible.

A training of trainers was also suggested. However, for a more formal training, resources will have to be generated to either organize training camps in the city, or to send the trainers to institutions that offer such courses.

The different stages of plan formulation would involve mapping the distribution of variables influencing health and indicating the existing environmental conditions. A GIS base already exists with the I.C.D.P. office. This would be used to map environmental indicators that will explain and help in analyzing the disease burden. Once the gaps in infrastructure development are identified, an Action Plan can be formulated. All this would, however, involve multiple stages of research for integrated planning.

As mentioned above, Mirzapur being a small city, news spread very fast. Even before the Brainstorming Workshop could be held, Healthy City news was published in the local newspapers that brought many citizens and press reporters to the venue of the workshop. Hence attending to the media became a task. It was difficult to limit participation, resulting into administrative and management problems. However, the benefit of it was that awareness for the project came without much effort.

**LOCAL TASK FORCE WORKSHOP OF MIRZAPUR**
**HELD ON FEBRUARY 27-28, 2001**

The Brainstorming Workshop was followed by the Local Task Force Workshop, by which time the drafts of the Status Papers were ready for discussion. As with the Brainstorming Workshop, the response to the Local Task Force Workshop (LTF) of Mirzapur was also very good. Once again, about 50 participants attended, when only the planning team was invited. While over-attendance is a perennial problem in the city, as a result of which discussions get diluted, it also indicates a positive response/attitude to any new initiative in planning. Moreover, it indicates that the citizens of Mirzapur are curious and alert about the activities that are going on in their city.

The LTF Workshop was arranged to discuss the progress of the status papers that were being written in preparation of the background material, on the basis of which the Action Plan was to be formulated and to identify the data gaps in the papers. Presentation of the status papers (by the various group leaders) also revealed the infrastructure shortages in the city. All the topics were well presented and the different aspects of development were discussed at length. In the course of the discussions, some solutions to the problems were also suggested. The development aspects discussed were:

- water supply and sanitation
- education
- population characteristics
- environmental pollution
- health infrastructure and diseases
- drainage and roads
- solid waste management
- recreation, tourism and heritage
- landuse and location, and
- community participation.

The paper on traffic and transportation was not completed and could not be presented. This topic was a later addition, to include the need for improvement of this sector, in order to cope with the traffic and transportation problems that arise at the time of the bi-annual religious fairs held during "Navaratri", when people visit the Vindhyvasini temple, for which this area is renowned. During the time of the fairs, around 10 lakh pilgrims visit Mirzapur.

Prior to the LTF Workshop, three meetings of the planning team were conducted by the Chairman of the Municipal Council on the Healthy Cities Project, to review the progress of the work and provide suggestions for the writing of the papers. The Team Leader from the I.C.D.P. office also helped in arranging the meetings, guiding the writing of the papers and helping the writers in the collection of data and information. The Team Leader of I.C.D.P. and his staff also helped in networking with the planning team.

At the end of the LTF deliberations, a **Steering Committee** was formed for the Healthy Cities Project, with the following persons being nominated with the help of the Chairman of the Municipal Council:

| | | |
|---|---|---|
| 1. | Shri Gopal Dass Chunahe | Chairman (also of the Municipal Council) |
| 2. | Dr. Sarjeet Singh Dang | Vice-Chairman (MLA) |
| 3. | Shri S. K. Relan | Secretary (ICDP Team Leader) |
| 4. | Shri K. K. Mishra | Members |

5. Shri Akshibar Pal
6. Shri Raj Kumar Seth
7. Prof. Milan Bhowmik
8. Shri C. P. Gupta
9. Shri Narayan Dass Agarwal
10. Shri Gurdeep Singh Dang
11. Sm. Sushma Pandeya
12. Shri Lalji Gupta
13. Shri Anand Swarup Srivastava
14. Shri Rajendra Jaiswal
15. Shri Baliraj Singh
16. Sm. Rajkumari Khattri
17. Shri B. M. L. Srivastava
18. Shri Jagrup Singh
19. Shri Triloki Nath Purwar
20. Shri Prabhu Narayan Srivastava
21. Shri Aman Ulla Ansari

The members of the Committee are either specialists from the respective sectors of development or renowned citizens of Mirzapur, who are knowledgeable about the city.

Like the citizens, the media in Mirzapur is also very alert. On demand from the media, a press conference had to be arranged to disseminate information pertaining to the Healthy Cities Project. Around a dozen media persons attended the meeting. Hence, with their reporting in the local papers, news about the Healthy Cities Project spread very rapidly.

It was decided in the LTF meeting that an additional time of 15 days would be given to complete the papers, at the end of which a meeting would be held to initiate the process of formulating the Action Plan. Discussions regarding convergence of the ongoing developmental activities were also done in the course of the LTF meeting. With plenty of participatory planning already in practice, with trainers to assist the community, it was decided to train these trainers (through TOT) to assist the people in building a lobby to improve environmental hygiene. A decision was also taken to incorporate different kinds of campaigning in the Action Plan. The Plan, however,

would be done by selected members of the planning team and the steering committee, who have expertise in drafting the plan.

**AWARENESS CAMPAIGNS**

## The Process

A major objective of the Healthy City Project is advocacy. It was decided to do so in stages. A sub-committee of eight members was formed out of the Steering Committee. The aim was to plan and monitor campaigns for awareness.

**Actions Taken**

1. Mirzapur city is noted for its Vindhyavasini Temple, which attracts pilgrims from the entire region. A fair is held every twice a year during *Dussehra* and *Ramnavami* (Indian religious festivals), when around 10 *lakh* people visit the city. It was thought appropriate to introduce the Healthy City concept during the fairs so as to benefit large sections of the society. This was done in October 2001 during the *Dussehra* fair, to promote cleanliness. Banners were fixed in prominent places for people to adopt hygienic habits and prevent littering or polluting.

2. In December 2001, a mass awareness campaign was undertaken to introduce the concept to each and every citizen. The Chief Minister of the state inaugurated the rally. Around 30,000 people attended the campaign. Information, Education and Communication (IEC) methods were used in the form of banners, posters and folders (copies enclosed). The banners were put up at crucial junctions to highlight the Healthy City concept. All banners had the slogan "CLEAN CITY, HEALTHY CITY" printed on them.

Posters were pasted on the city walls, with suggestions to keep the city clean. The suggestions were to:

- Adopt clean and healthy habits
- Cooperate in keeping the city clean
- Dispose garbage on time and deposit it in places specified
- Not to waste water while using
- Grow and preserve trees and plants

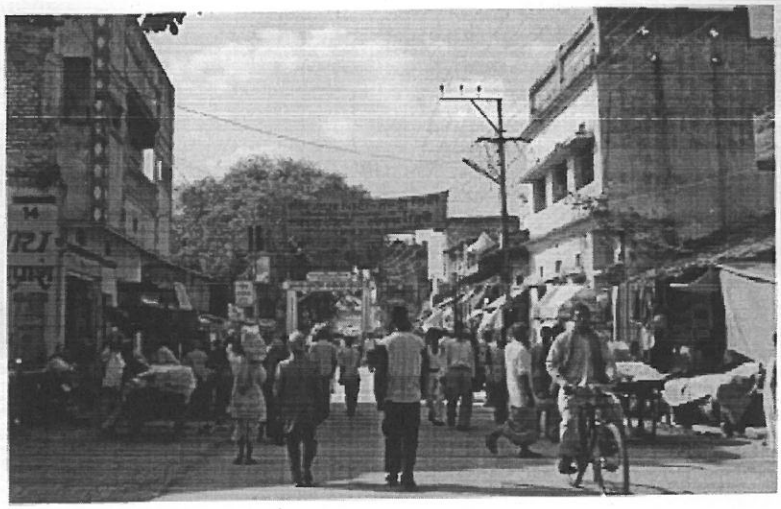
- Not to use plastic bags
- Help to control population and adopt family planning measures
- Drink purified water
- Not to eat stale food
- Immunize your child on time
- Help the city to maintain cleanliness and promote beautification
- Not to play loudspeakers and tape recorders on high volume

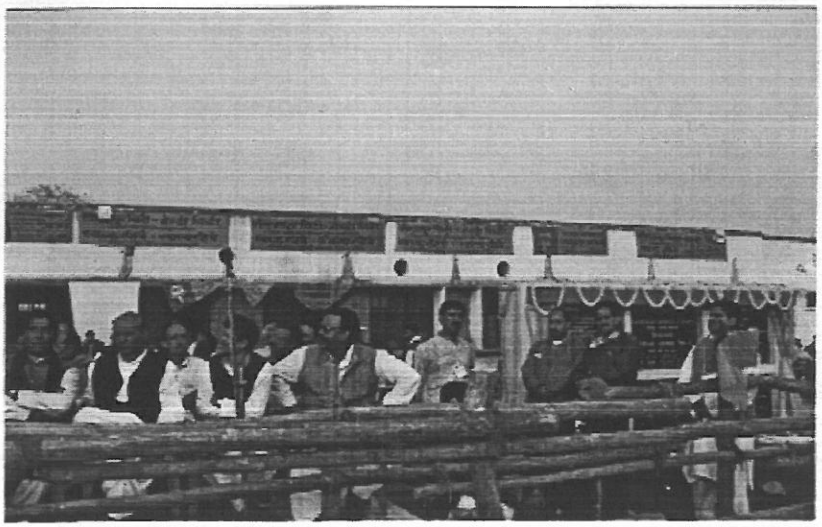
Pamphlets with detailed instructions regarding measures to be taken to maintain environmental hygiene were distributed to individuals. Over 40 suggestions were recommended for citizens to remain disease-free, such as:

- Remain neat and tidy and take care of family health.
- It is the duty of every citizen to keep the children and the old neat and clean.
- Do not spit on the road after taking *paan* or tobacco.
- Domestic and commercial waste should be collected from homes and shops and disposed of properly.
- Throw waste into garbage bins provided by the municipality.
- Construct toilets in homes. Not to urinate or defecate in open drains, roads or public places.
- Drinking water should be purified by alum or chlorine and kept covered.
- Keep residential surroundings neat and clean.
- Do not let water accumulate in potholes around houses.
- Plant flowers and trees.
- Use gas for cooking food, instead of wood or coke.
- Do not buy peeled or cut fruits and vegetables.
- Keep food covered.
- Do not eat stale food.
- Always wash your hands with soap and water before having food
- Ask children to always wash hands after using the toilet.
- Be regular in personal habits such as the use of toilets, brushing teeth, taking bath, etc.
- Always keep clothes and bedrolls neat and clean.
- Have green fibrous vegetables in your food
- Avoid spicy food.
- Use iodized salt.
- Drink water in the morning after waking from sleep.
- Do not sleep with your face covered.
- Keep the bedroom windows open.

- Do not create habits for intoxicated drugs.
- Do not sleep in the afternoon.
- Do physical exercises according to physical fitness.
- Do not walk barefoot.
- Pregnant women should be given balanced food and regular medical attention.
- Immunize your child.
- Use antiseptics on cuts and wounds.
- Do not do self-medication.
- Do not let children play on rooftops without railings or protection.
- Keep the children away from medicines, chemicals and electrical apparatus.
- Do not let the sick move around without proper medical treatment.
- Pet animals should be kept separately in the house and they should be kept clean.
- Animals should not be allowed to take bath in the river Ganga.
- Dead animals and human bodies should not be thrown into the river Ganga.
- Do not use plastic bags.
- Keep the neighbourhood neat and clean.
- Loudspeakers and tape recorders should be played on low volume.
- Help to control population. Use family planning methods.
- Vehicle pollution should be checked regularly.
- Do not over speed vehicles within the city. Obey traffic rules.
- Let children grow naturally, without discrimination.
- Allow women to be bold, straightforward and organized in the society.

The rally was addressed by the Honourable Chief Minister of U.P., the Chairman of the Municipal Council (who is also the Chairman of the Steering Committee), the local MLA (who is the Vice-chairman of the Steering Committee) and a few other eminent citizens.





Since the main address of the rally was that of the Honourable Chief Minister of the State, the campaigning proved to be a great success. Today every citizen of Mirzapur

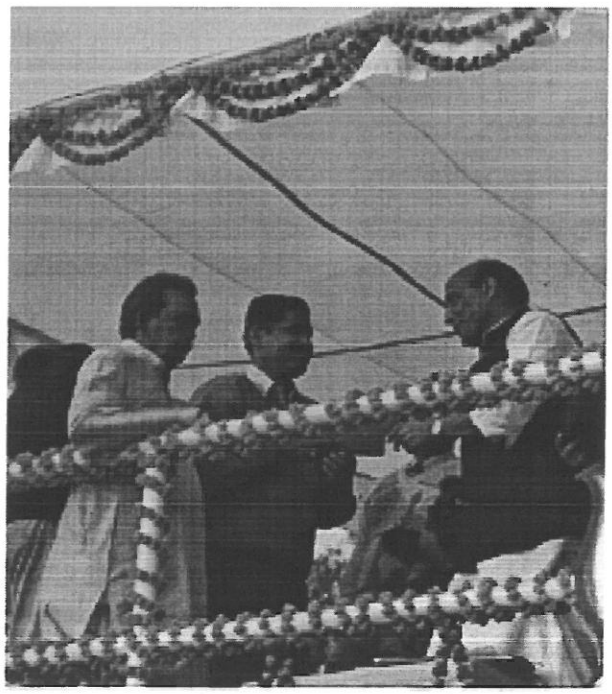
knows about the Healthy City Project. Moreover, the citizens are proud of the fact that their city has been selected for this WHO project.

The local people were told about the purpose of the Healthy City Project, through the different speeches. They were asked to foster healthy habits to remain healthy. The three main messages were:

- **REMAIN NEAT AND CLEAN**
- **MAINTAIN CLEANLINESS IN THE CITY**
- **PREVENT DISEASES**

**The Speeches**

Apart from the speech of the Honourable Chief Minister, other speeches delivered were those of the Chairman of the Municipality, who is also the Chairman of the Steering Committee of the Healthy City Project and the local MLA, who is the Vice-chairman of the Steering Committee for the Healthy City Project. The Vice-chairman explained the background of the Healthy City Project and the selection of Mirzapur for the implementation of the project.



## THE GUIDE ATLAS FOR HEALTHY CITY PLANNING

Using the available Geographical Information Science (GIS) database from the ICDP project, supplemented by a survey report on perceptible illnesses done by the National Institute of Urban Affairs, New Delhi (NIUA) a Guide Atlas has been prepared to plan for a healthy city. This is a joint effort of NIUA and the Mirzapur Nagar Palika Parishad. A bottom-up and a top-down approach have both been used simultaneously to produce the Atlas.

While the city's infrastructure has been demonstrated with the help of maps, the gaps in the provision of services have been highlighted by superimposing its distribution over population density and disease burden maps, to improve upon the infrastructure. The map demonstrations indicate the ability of the GIS technique to synthesize and contrast information in a manner to identify problem areas that require special attention. The Atlas has shown how different variables have been collected for individual properties and located spatially in the city plan. The Atlas guides the planners to analyze environmental conditions in order to plan for the future. The actual plan, however, will have to be done sectorwise and areawise and then the two will have to be integrated. Planning will have to begin at the community level, keeping in mind the needs of the people. The micro-areas will then be coalesced to form the overall city plan. The Plan can then be counter-checked by the city government to assess if such demands can be met with the available resources.

## SETTINGS APPROACH TO ENVIRONMENTAL IMPROVEMENT

While work continues on Healthy City planning, environmental improvement is being taken up with the help of location-specific activities using the "settings" approach. These are activities like improving *ghat* facilities along the river, fixing trees guards, organizing health camps, arranging for potable water and sanitation in schools, health campaigns in schools, etc. These activities are ongoing and will continue. A few such activities have been completed. However, except for the health camps, no partnerships were arranged.

### Health Camps

Two Health Camps were held on February 19 and 26, 2003 in partnership with the State Innovation Family Planning Project Service Agency (SIPFSA) being promoted by USAID. The focus was mainly on reproductive and child healthcare. The office of the Chief Medical Officer of the District Hospital gave the organizational support. The CMO's office also provided two doctors for each section of the healthcare activities carried out in the camp, along with technical

and para-medical staff. The latter distributed the advocacy literature, especially that of Family Planning.

The different sections that were set up were:

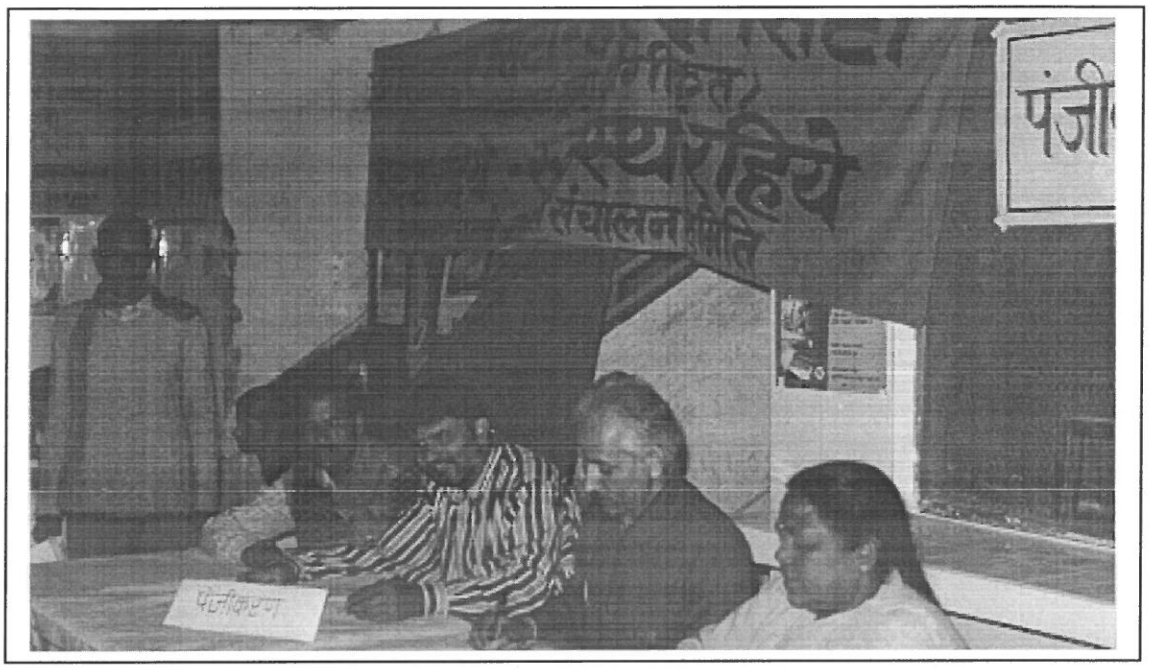
- Immunisation for tetanus for pregnant women, pulse polio and hepatitis B
- Blood test for malaria
- Tubectomy for family planning for women
- Reproductive and child healthcare (with SIPFSA's contribution)
- Sex-related diseases
- Stomach ailments

In all the cases, tests, diagnosis (where possible) and advocacy for prevention were done.
The patients came mostly from the city and the peri-urban areas. For the first camp altogether 233 patients were registered. The breakup, in numbers, is as follows:

- Children (0-5 years of age) for immunization.....79
- Immunisation of pregnant women.....20
- Malaria patients.....27
- Registered for Family Planning.....107
- Operated for Family Planning.....95
-

On the second day altogether 270 persons were registered. Their break up is given below:

- Children (0-5 years of age) for immunization.....105
- Immunisation of pregnant women.....24
- Registered for Family Planning.....141
- Operated for Family Planning.....126


पंजी

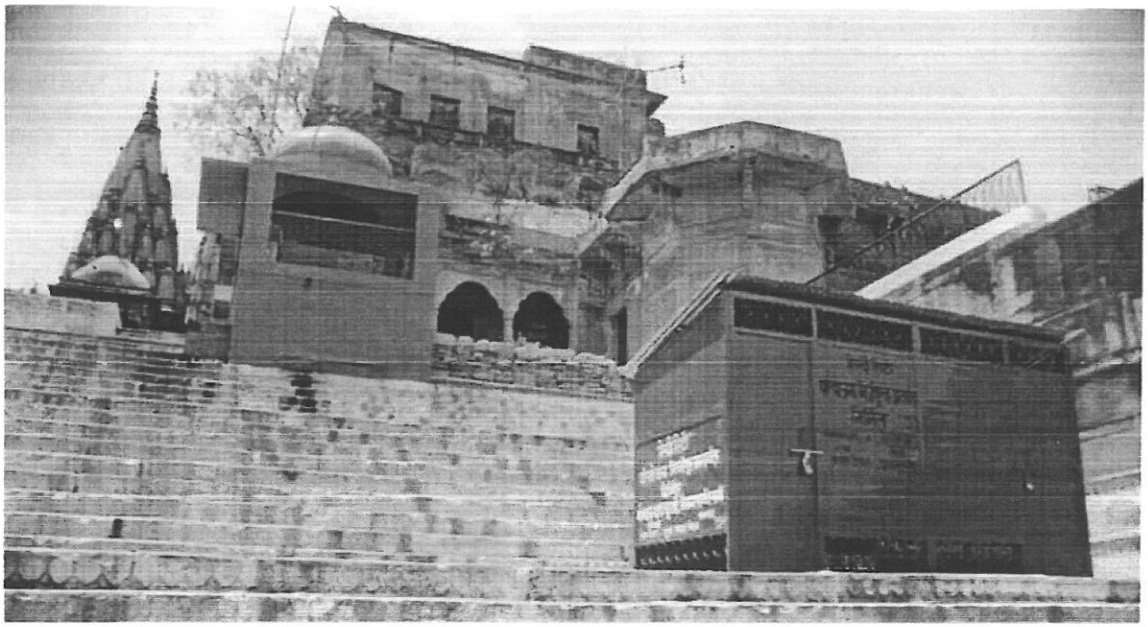

स्वागत

**Tree Guards**

Seventeen tree guards were installed by the Public Works Department of the Mirzapur Nagar Palika Parishad to protect trees already planted by the municipality in the Kedarnath Bhattacharya Lane and in Baghel ki Gali of Wasligunj.

***Ghat* Facility**

Three mobile cabins have been constructed for the women to change their clothes after bathing in the river in Dau Ganga and Pucca Ghats. The Ghat Committees have been made responsible for the maintenance and care taking and the shifting of the cabins with the changing water levels, especially during the monsoon season.



**School Sanitation**

Water tank with a water connection was given to Sunder Munder School run by the municipality. One urinal was also constructed and one toilet was renovated using ceramic tiles, in the same school.

In the Government Girl's Inter-College in Vindhyachal, which did not have urinals, a four-seated urinal has been constructed, along with 70 meters of pipeline with three taps for water and a 30-meter outlet drain.

## MIRZAPUR HEALTHY DISTRICT PROJECT

The Healthy District Project was an extension of the Healthy City Project in which the entire Mirzapur district was taken into consideration. The activities included Awareness and Assessment Workshops, Health Camps, Need Assessments, development of Management Information System, Participatory Learning Activities and Training at the Grassroots level based on priority requirements of the communities. These activities are continuous processes of project planning and implementation. Each of these activities has been documented separately and is not included in this report. The MIS is being maintained by the District Administration and by the NGOs that did the PLA work.

## SECTION V
## EVALUATION AND CONCLUSIONS

The Healthy City concept was evolved to promote participatory urban planning focusing on health, for which individual attention is required. The idea was to innovate practices and strategies to improve and monitor environmental hygiene, in order to reduce the disease burden. This is to be achieved based on local priorities, with progressing urbanization lowering the quality of life due to shortage of utilities resulting from population increase. As the idea developed from some of the local initiatives undertaken in UK to deal with local urban problems, the Healthy City concept was first practiced in Europe. It was later adopted globally, spreading to USA, Canada, the Middle-East countries, and then subsequently to South-East Asia. The practice of the Healthy City concept is comparatively new in the developing countries. However, as literature indicates, experiences of the developed and the developing countries are very different, though the objectives are the same. The prevailing policies, the administrative processes, the management strategies and the financial capabilities mostly influence the differences, along with the political will and the culture of the country. Thus the Healthy City Projects are perfect illustrations of the "think globally and act locally" slogan conceived by the 1992 Rio Conference and subsequently reiterated by other world development summits.

As mentioned in an earlier section of this report, application of the Healthy City concept was initiated in the mega-cities of India, in the early 1990s. The focus, those days, was mainly on building information systems or databases for health and hygiene analysis and adoption of the "settings" approach to upgrade environmental conditions. The objectives subsequently moved on to research and training, in order to build human capacity to identify the causes of environmental degradation, so that it could be corrected at the grassroots level. In what can be called as the third phase of development of the Healthy City concept in India, individual towns and cities were adopted for purposes of environmental improvement through the practice of community participation, where the entire city or town is taken into consideration to formulate Healthy City Plans, to include good urban management strategies (as best practices).

Though in its nascent stage of development, a Healthy City planning process is gradually emerging in India, which if pursued, would evolve into an effective planning process. In time to come, this phenomenon would develop into a system that would be worth following for building sustainable urban environmental management strategies to reduce the disease burden. This progress in the understanding of the Healthy City concept in India is certainly very encouraging for planners to believe that some day the Healthy City concept could be established in Indian cities, comparable to those of the developed nations, if sincere efforts are made by all stakeholders. But it is to be remembered that the process began in Europe in 1986 by integrating prior public health initiatives to improve environmental hygiene. Thus a Healthy City Project needs to be integrated or "nested" into other development projects or efforts, to avoid the re-inventing of the wheel, especially when the problems of urbanization that lead to unhygienic conditions have already been identified. However, at this point of time in India, it would be advisable to analyse the prevailing conditions to estimate how much has been achieved and what remains to be done, without forgetting that the concept has been evolving in the developed nations since 1986.

## Administration

Organising the Healthy City concept in India is the administrative responsibility of the Central Government Ministries of Health and Family Welfare and Urban Development and Poverty Alleviation, with the World Health Organisation (WHO) as the promoter and the donor agency from the UN, introducing the concept. In India all WHO programmes have to be scrutinized by the Ministry of Health and Family Welfare. However, based on the location and the jurisdiction, the programmes are allocated to the different Ministries of the Central Government for purposes of administration and monitoring. In the case of the Healthy City programme, it was assigned to the Ministry of Urban Development and Poverty Alleviation, as the concept pertains to urban settlements. However, the final approval comes from the Ministry of Health and Family Planning.

Since the onus of administering the Healthy City programme fell on MOUD, it distributed the responsibility of the work to agencies dealing with city development and management and urban research. It also included the local governments and other management institutes that work on urban policy planning. These agencies work as facilitators and coordinators. They work as

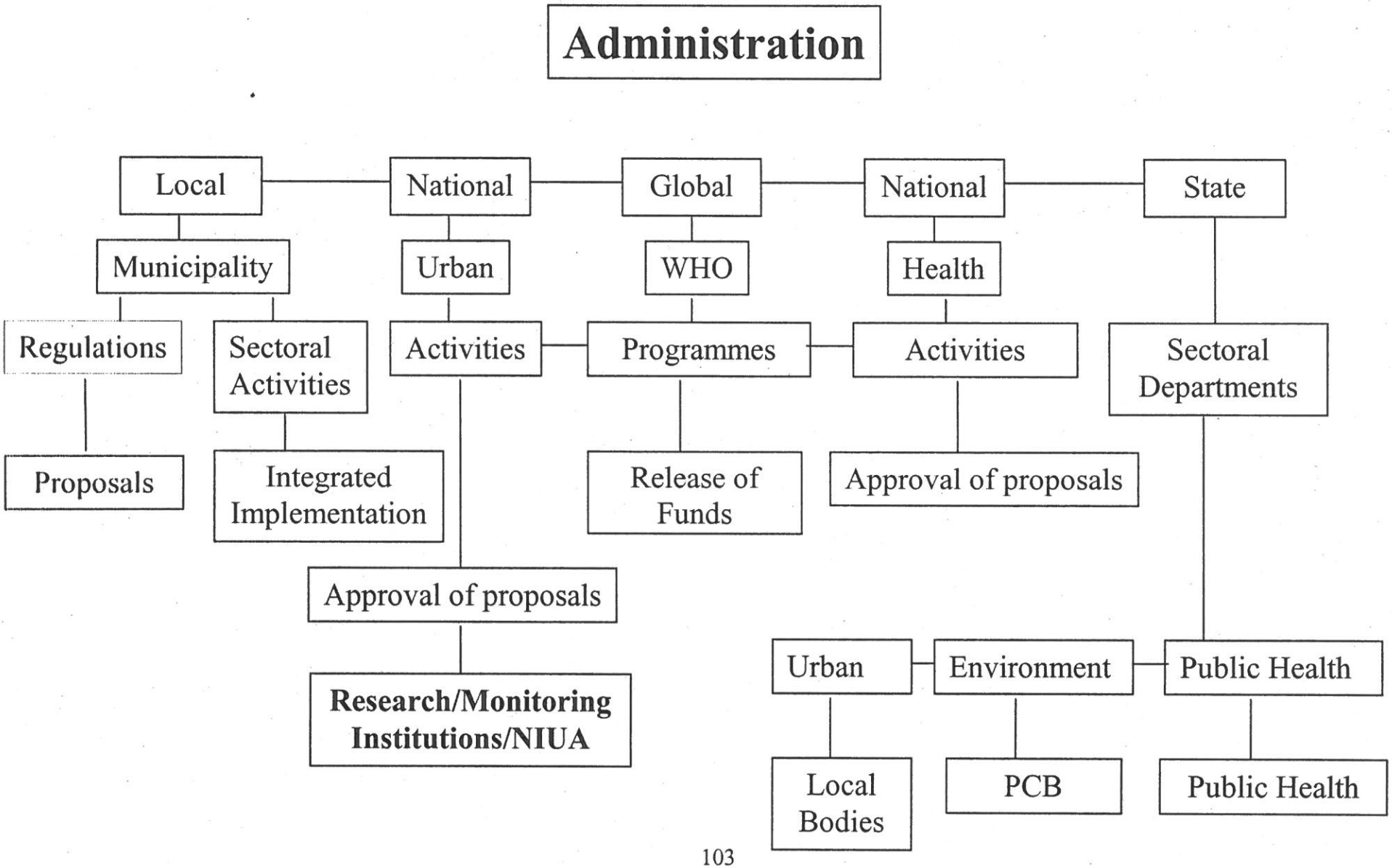
experts in the field and liaise between the stakeholders, including the community. The administrative organizers do not deal directly with the cities. Details for implementation are drawn by the facilitating agencies in consultation with the local government.

The administrative path for operating the project is very rigorous, with approvals to be taken from several agencies that delay the process and thereby the project activities. Chart I will indicate the complicated network to be followed to get the project approved and supported during the course of the work. Moreover, the WHO time-frame is fixed at bienniums (two-yearly) of work and fund allocation, with the programmes continuing over several bienniums. But each project is only for two years. With each new biennium, the emphasis changes, creating a stress for the previous projects to be completed within two years. Hence, even if the work can continue as a spillover, the accounts have to be submitted every two years. This is a difficult task, as often the project activities continue into the next biennium.

Normally in any action-research, project proposals are written much ahead of field activities. Therefore, often after starting the project, adjustments to local conditions are necessary. Hence, projects should be drawn in a manner that can absorb minor adjustments. At the same time, appropriation of funds should also be adjustable. At present every modification demands intricate sanctions and lengthy processing that delays implementation. As long as the budget remains the same, minor adjustments in the field should be permitted to avoid delays in project implementation. Moreover, since the Healthy City Project is still in its nascent stage of development, it is often exploratory and requires adjustments in the field.

Another deterrent in the implementation of the project is the communication gap between the Central and the State Government departments. The latter hesitates to act until intimated by the former. An institutional process will, therefore, have to be developed for quick and hassle-free decisions. Only then can the time-frame of two years be maintained

# CHART I


Administration
Local
National
Global
National
State
Municipality
Urban
WHO
Health
Regulations
Sectoral Activities
Activities
Programmes
Activities
Sectoral Departments
Proposals
Integrated Implementation
Release of Funds
Approval of proposals
Approval of proposals
Research/Monitoring Institutions/NIUA
Urban
Environment
Public Health
Local Bodies
PCB
Public Health

for effective implementation. Indian experiences indicate that the Healthy City concept requires a minimum gestation period of five years to impact, and that too after the project receives support from other development programmes. Such has been the case in Kerala and Delhi. In the former, it was nested in the People's Planning Programme. Whereas in the latter, the project was merged with the Bhagidari Programme of the Delhi Government. As for the Mirzapur city, the project was based on the foundation created by the ICDP of the Ganga Action Plan.

In Mirzapur it was realized that a local facilitator would have helped to achieve a better progress of activities. Till such time the ICDP Team Leader helped to activate the project, progress was reasonably good. The local government is unable to take initiatives to begin the activities. However, once begun, Mirzapur Nagarpalika Parishad was able to monitor successfully, though time and again MNP complained of difficulties arising from lack of State support that was actually because of lack of linkages between the Centre and the State. A formal communication from the Centre to the State is an absolute necessity. What is, therefore, required is a tiered administrative channel to be followed to cope with the limited time and funds. Hence, the first hurdle in the project is administrative, for the project is directly handed over to the local government with the help of the facilitating agency, ignoring the municipality's allegiance to the State. This is a very big hindrance and a major cause of delay in implementation.

## Political Will

To involve the community in the planning process requires a very strong political will, especially in a democratic country like India where the poor are illiterate. It should be made the duty of every ward councilor to motivate and involve the community in the planning of their residential neighbourhoods. At present the role of a politician in such a planning process is negligible. Politicians criticize the administration for lack of implementation. But as people's representatives, they hardly involve themselves except in the case of crisis planning. Local leaders should involve themselves in micro-level planning. Such planning has now been facilitated by the 73$^{rd}$ and the 74$^{th}$ Amendments of the Indian Constitution. In fact, such grassroots planning should be made mandatory. Ironically, vested interests of politicians often destroy the collective efforts.

## Financial Support

Because of the long-standing "subsidy" arrangements in the delivery of utility services in India, citizens often expect all facilities to be given to them as donations by the government. This mind-set has to change. No service should be given free of cost. Differential fees should be determined based on income or land rent, to nurture commitment and to value services. Only then will the monitoring of services be more effective and sustainable. Innumerable studies on how to build such systems are there in the country. Their suggestions need to be adopted. There are several ways of motivating people to participate. All possible means should be tried.

## Healthy City Planning, Monitoring and Sustainability

Unless nested within existing local development programmes, a Healthy City Project cannot perpetuate because of lack of development funds. WHO provides substantial funds for advocacy, but not for infrastructure upgradation (as physical development is not WHO's focus), which leads to environmental improvements that finally reduce the disease burden. In fact, there seems to be a dilemma ingrained in the project formulation that focuses on environmental hygiene improvements without any financial support for physical development, knowing full well that mere advocacy cannot reduce the disease burden, until and unless the quality of life improves. The latter is possible only when utility infrastructure supports human efforts to improve personal and public hygiene. Therefore, unless an institutional system is developed to integrate the Healthy City project to State and local government activities, the programme cannot be sustained.

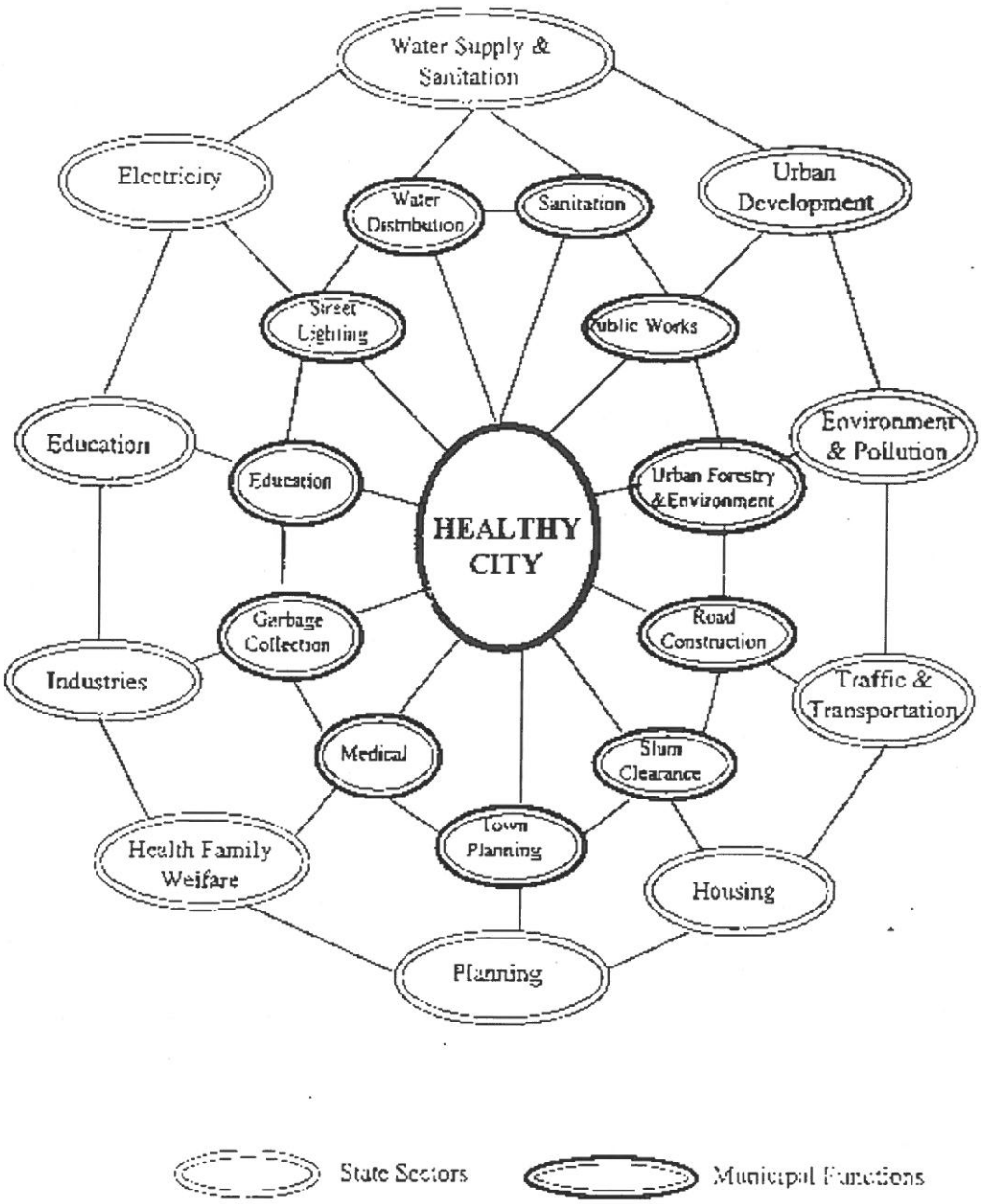
The issue here is of multi-level planning, whereby all kinds of development will have to be linked to attain an overall impact on environmental hygiene. The links will have to be among national, state and local level utilities and legislation. Good planning relates to the development of a system of management that takes care of the overall improvement of the city, along with a rigorous monitoring system that is able to maintain healthy standards. These are set according to the available financial and human resources, supported by institutional backing to perpetuate the objectives. An example of multi-level linkages is given in the next page. Normally, policies are formulated at the national level, with programmes developed at the State or the meso-level, while project implementation is done at the local micro-level with the help of the local government and

NGOs or other stakeholders, but with the sponsorship of the Central or State-owned programmes.

Partnership development helps to decentralize implementation at the local level. The partnerships can be at the State and regional levels, State and local levels, public and private partnerships, government and community partnerships, multi-stakeholder partnerships between institutions, agencies and so on. However, since the project objectives seek health improvement and prevention of diseases, community involvement is essential.

Therefore, Healthy City planning has to be a structured process following both horizontal and vertical linkages. It is both inter-regional and intra-urban, involving many State and local departments. It is basically multi-level planning, even though effective benefits are enjoyed at the micro-level. The GIS Guide Atlas illustrates the connectivity of health indicators and infrastructure development through its layered structure. Such planning also integrates neighbourhood planning to State functions.

# HEALTHY CITY LINKAGES



## Recommendations

### Need for Building a System

Time and again planners have recommended integrated and multi-level planning. But despite all efforts, India has still not been able to establish a foolproof system of comprehensive or integrated or multi-level planning, as a result of which the country has suffered from the innumerable negative impacts of urbanization. It is true that along with expansion, there is a need for improved technology and management strategies. There are several options for planners. The first and foremost is that of population control, to enable the government to administer with the available resources. The next is of adopting better technologies. The third is of generating more resources. The fourth and the final effort should be to take the people into confidence and seek their support by bringing about awareness (which obviously means more education). This can be done in two ways: by integrating planning at the area level, or at the sectoral level, with the help of a tiered structure of management and administration.

However, it is easier to do comprehensive planning at the area level, as a smaller area is more easily manageable. Besides, if people's participation is required, neighbourhood planning becomes essential. India has taken a step towards such planning by promoting decentralization of activities with support from the Seventy-Fourth Amendment of the Indian Constitution. But there are flaws in its enforcement, as a result of which such provisions have not been a grand success.

The Healthy City programme is a renewed effort to resolve our planning discrepancies for a comprehensive system of management and development. It is hoped that with repeated efforts, an integrated system of management will be institutionalized for all kinds of development. Only then will the country be able to develop healthy cities.

### Need for Flexibility

Area development for Healthy Cities will have to be location-specific. India is a mosaic of cultures. In fact, even within a city there are social areas. Therefore, flexible strategies will have to be adopted to suit local people. The management process will have to be based on the prevailing conditions and methods will have to be formulated to cater to local requirements. In fact, one of the major objectives of Healthy City planning is to estimate local needs, before innovating methods for resolving environmental hygiene problems. The Healthy City Project has, therefore, adopted a "settings"" approach to plan at the grassroots level. Health status is

mostly determined by the conditions of the "setting", rather than by the health cure facilities that is provided. Hence, a need-based assessment is the first requisite of a Healthy City Project. Actions are to be taken based on the local conditions and the demand for it. Initially a broad frame will have to be developed, after which changes or modifications can be made to suit area requirements.

**Need for Community Participation**

The essence of all environmental hygiene improvements rests with the individual's self and the surroundings. Healthy habits lead to an improvement in personal hygiene that prevents diseases. Every member of a household will have to maintain cleanliness to make the surroundings hygienic. Both personal hygiene and public health will have to be taken care of, to promote good standards of living. At the domestic level, the elders should take care of the cleanliness and the habits. While at the area level, leadership will have to be developed to look after the neighbourhood hygiene. Also, an area-level system will have to be formalized to take care of the surroundings.

**Need for Awareness**

It is said that charity begins at home. Hence healthy habits should be initiated to children by the parents. If the parents are ignorant of such knowledge, awareness methods will have to be adopted to do so. This could be through media, local leadership, house-to-house information dissemination by the local government for precautions, social service networks and so on.

The children can be taught in schools or through other development activities like NCC, campaigns, competitions, etc. Children are the future citizens of a country. Hence teaching them to cultivate healthy habits will go a long way in helping the city. It will also help the uneducated and ignorant parents because of emotional attachments to children. Environmental hygiene awareness should be instilled in children to the extent that it becomes their second nature. Only then will the country benefit.

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Annexure I

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Annexure II

# WORKSHOP PROGRAMME

**December 14, 2000**

## Inauguration

| | |
|---|---|
| 10.30 a.m. | Introduction<br>Project Coordinator, NIUA |
| 10.45 a.m. | What is Healthy City?<br>J.P. Vishwakarma, Div. Commissioner<br>Chandrama Prasad, Dist. Magistrate<br>Gopal Dass Chunahe, Chairman, Mun. Council<br>Dr. S. S. Dang, MLA, Mirzapur |
| 11.40 a.m. | Tea |

Plenary Sessions

| | |
|---|---|
| 11.45 a.m. | Healthy Cities Concept and Project Objectives<br>Dr. Madhusree Mazumdar, Project Coordinator |
| 12.30 p.m. | GIS Mapping of Mirzapur<br>Akshaibar Pal, Proj. Engr. I.C.D.P. |
| 1.15 p.m. | Lunch |
| 2.00 p.m. | Participatory Methods<br>Dr. Neela Mukherjee, Expert |

## Workshop Sessions

2.45 p.m. Participation at the Grassroots
Hari Govind Singh, Director AAK

| | |
|---|---|
| 3.15 p.m. | Tea |
| 3.30 p.m. | Resource Generation at the Local Level<br>Rakesh Dubey, AGM CASHPHOR |
| 4.00 p.m. | Role of Stakeholders<br>Gopal Dass Chunahe, Mun. Chairman<br>Dr. S.S.Dang, MLA |

**December 15, 2000**

| | |
|---|---|
| 10.00 a.m. | Stages of Plan Formulation<br>Badal Chatterjee, CDO<br>Milan Bhowmik, Director G.D.B.A & M.S.<br>S. K. Relan, Team Leader I.C.D.P. |
| 11.30 a.m. | Tea |
| 11.45 a.m. | Census Population<br>B. Singh, D.E.S.O. |
| 1.15 p.m. | Lunch |
| 2.15 p.m. | Landuse and Planning<br>R. K. Pandey, Asst. Engr. V.D.A. |
| 3.30 p.m. | Tea |
| 3.45 p.m. | Community Participation<br>V. K. Verma, Proj. Off. DUDA |
| 4.45 p.m. | Wrap Up |

Annexure III

## WORK ALLOCATED TO CITIZENS OF MIRZAPUR

| Subject | Names of Paper Writers | Detailed Structure of Paper | Time Frame and Length of Document |
|---|---|---|---|
| Safe Water | 1. Bachchan Ram (Exec. Engr), UP Jal Nigam<br>2. P. Dubey (WWE), Nagar Palika Parishad | Area and population covered, supply of water to different intracity areas, time and quantity of supply, per capita supply, short falls vis-à-vis population projections, supply of water in slums and LIG areas, type of supply (tap, well, handpump, etc.) | Time: one and half months<br>Length of Document 25-30 pages |
| Sanitation | 1. Jagrup Singh (Exec. Engr), Construction Division (E/M), UP Jal Nigam<br>2. Hemchandra Mishra, Chief Sanitary Inspector, Nagar Palika Parishad | Area & Population covered, pipelines laid, capacity of the sewerage, areawise provision, storm water drains/ sewage treatment plants and their capacity.<br>Solid waste management | Time: one and half months<br>Length of Document 25-30 pages |
| Environmental Pollution | 1. K.A. Kazmi, Project Manager, Ganga Pollution Control Unit | Whatever is available from the Ganga Pollution Control Unit and any other type of pollution recorded so far. | Time: one and half months<br>Length of Document 25-30 pages |

| | | | |
|---|---|---|---|
| Education | 1. Mahesh Kumar Gupta, Zilla Basic Shiksha Adhikari<br>2. K.K. Mishra (Ex. DIOS)<br>3. Raj Kumar Seth (Principal)<br>4. Shyam Narayan (Distt. Education Inspector) | Primary, Secondary, College, University education and institutions, students, teachers, their ratio.<br>Education levels in the city.<br>Any other educational institutions<br>Different courses offered | Time: one and half months<br><br>Length of Document 25-30 pages |
| Community Participation | 1. V.K. Verma, Project Officer, DUDA<br>2. P.K. Das, Project Officer, DUDA<br>3. Anil Kumar, ICDP | Area and population covered (slums in particular).<br>Strategies being followed.<br>Existing programes (including campaigning)<br>IEC Material developed | Time: One and half months<br><br>Length of paper: 25-30 pages |
| Population | 1. D.P. Singh, Executive Officer Nagar Palika Parishad<br>2. B. Singh, District Economic Statistical Officer | Intracity- Population density and distribution (vertical and horizontal) by age, sex, income (if possible), education employment, housing (pucca/ kutcha), etc. distribution of slum population and density | Time: One and half months<br><br>Length of paper: 25-30 pages |
| Health Infrastructure, Disease Burden and Health Care | 1. Dr. N.B.L. Srivastava (CMO)<br>2. Dr. H.S. Rai (Dy. CMO)<br>3. Dr. D.K. Srivastava | Hospitals, clinics, etc. beds, doctors, paramedical staff (and their ratio, with patients). Type of diseases. Incidence of diseases.<br><br>Primary, Secondary and Tertiary health care.<br><br>Public vs private medical care | Time: One and half months<br><br>Length of paper; 30-35 pages |

| | | | |
|---|---|---|---|
| Landuse and Location of Mirzapur | 1. R.K. Pandey, Asstt. Engineer, V.D.A. | Location, important features, ecology, morphology, slum locations (on map) and detailed landuse (on map) as well as in tables and percentages to total, along with density of population | Time: One and half months<br><br>Length of paper: 25-30 pages |
| Transport | D. K. Singh, R.T.O. | Details on traffic and transportation | Time: One and half months<br>Length of paper: 25-30 pages |
| Drainage and Roads | A. N. Singh, City Engineer Municipal Council | Information from the municipality | Time: One and half months<br>Length of paper: 25-30 pages |
| Recreation Tourism and Heritage | 1. Mr. Dhramendra (U.P. Tourism Dept.)<br>2. Neeraj Khattri (Yuva Kendra)<br>3. Shushma Pandey<br>4. Santosh Kumar Mishra | Parks, gardens, heritage sites, tourism spots, average number of tourists visiting, heritage preservation, history of Vindhyachal | Time: One and half months<br><br>Length of paper: 25-30 pages |

# Stage I

## Institutional Level

## Short Term Implementation

- Provision of Services
- Tax Collection
- Awareness of Rules / IEC materials
- Situational Analysis (Long Term)

1. Safe water
2. Sanitation
3. Location & Landuse, Slum Location
4. Population Distribution
5. Health Infrastructure
6. Disease Burden
7. Environmental pollution, sanitation, promotion
8. Health Care – primary, (nutrition) secondary, tertiary
9. Recreation / Lung spaces

10. Preservation of heritage/monuments
11. Pollution Control – industrial, vehicular, domestic
12. Education – primary, secondary, college & higher
13. Community Participation

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Identify Low Income Areas/Groups
Form a Local Office

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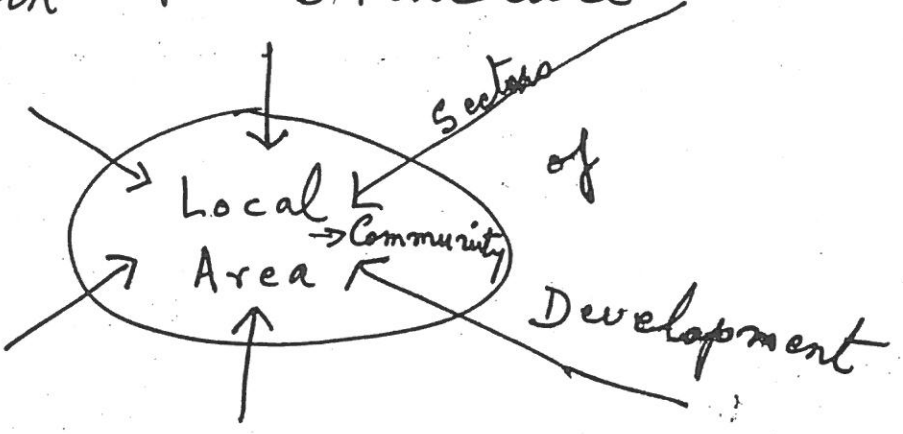
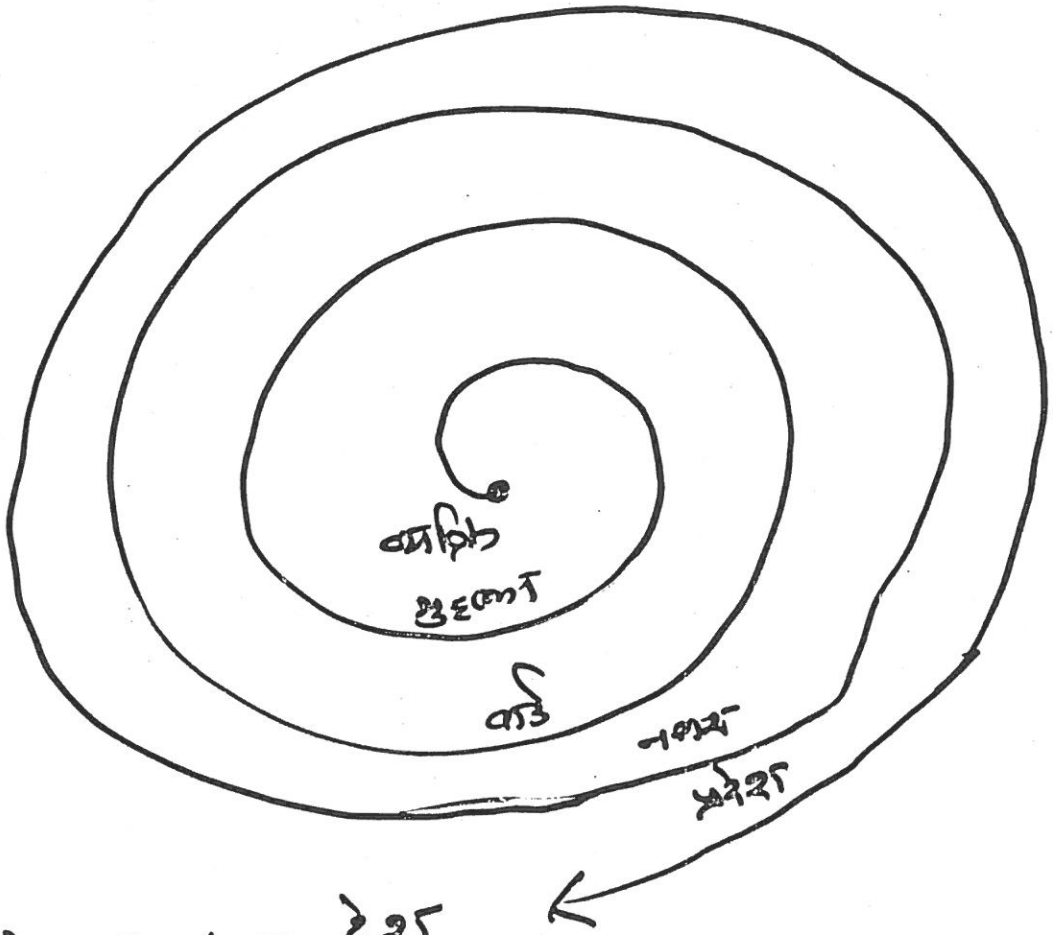
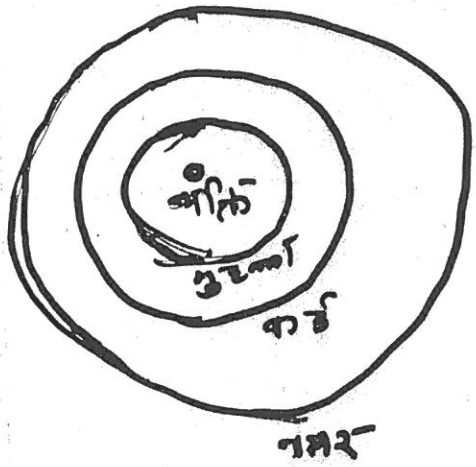
Horizontal and Vertical Pattern & Structure






भूमंडल ← देश

जहाँ व्यष्टि - समष्टि का सामंजस्य है)
दोनों अन्योन्याश्रित एवं परस्पर पूरक हैं।




जहाँ व्यक्ति (व्यष्टि मूलक)
समाज है।
व्यक्ति एवं समाज के स्वार्थों
में टकराहट

# हेल्दी सिटी की कार्ययोजना 15 फरवरी तक तैयार करने के निर्देश

सहारा समाचार
मिर्जापुर, 21 दिसम्बर,

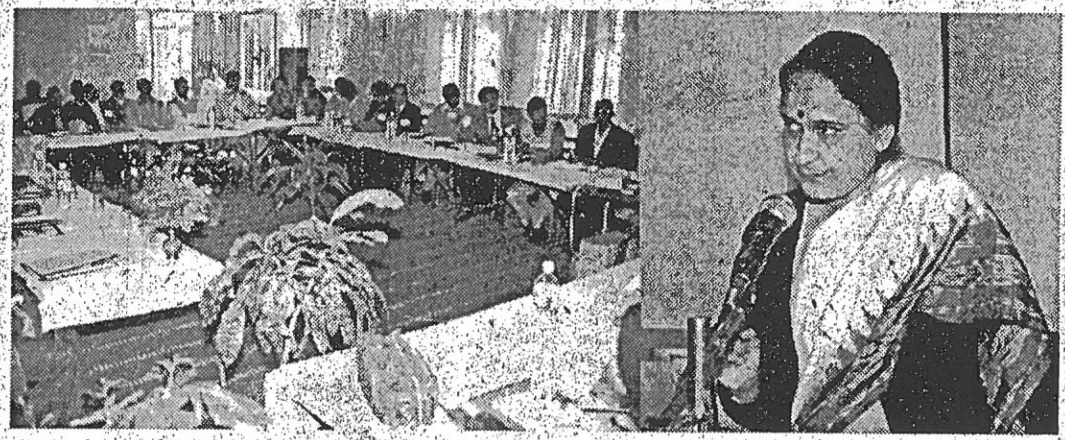
हेल्दी सिटी प्लान की तैयारी के लिए दो दिवसीय कार्यशाला का आयोजन होटल जाह्नवी में नेशनल इन्स्टीट्यूट आफ अरबन अफेयर्स की कोआर्डिनेटर श्रीमती मधु श्री मजुमदार की देख रेख में संपन्न हुई। कार्यशाला में एक टीम का गठन किया गया जो हेल्दी सिटी की कार्ययोजना आंकड़ों के आधार पर तैयार कर 15 फरवरी 2000 तक रिपोर्ट प्रेषित करेगा।

ज्ञात हो कि गंगा इन्स्टीट्यूशनल एवं क्यूनिनिटी प्रोजेक्ट के आधार पर मिर्जापुर नगर को हेल्दी सिटी के रूप में चयनीत किया गया है। बताया जाता है कि गंगा आईसीडी परियोना में गंगा कार्य योजना के सहायक परियोजना के रूप में सितम्बर 1995 में प्रारंभ की गयी।

गंगा कार्य योजना के प्रथम चरण में उच सरकार की सहायता से उत्तर प्रदेश के दो शहरों कानपुर व मिर्जापुर द्वारा गंगा में किये जा रहे प्रदूषण के लोड को कम करने हेतु 1987 से दिसम्बर 1993 तक कार्य कार्य किया गया। जिसमें कुल लगभग 20 करोड़ रुपये का इन्वेस्टमेंट उच सरकार द्वारा किया गया था। जिसमें पेयजल में सुधार व अन्य कार्यो के साथ साथ शहर के 40 प्रतिशत क्षेत्र में सीवरेज सिस्टम का निर्माण किया गया है। जिसमें लगभग 60 प्रतिशत जनसंख्या कवर हो जाती है।

वर्तमान में सीवज ट्रीटमेंट प्लान्ट तथा सीवरेज सिस्टम व बड़े नालों का रख रखाव जल निगम द्वारा किया जा रहा है। जबकि उत्तर प्रदेश शासन द्वारा इन इन्फ्रास्टकचर के रख रखाव हेतु नगर पालिका को हस्तान्तरित किये जाने हेतु बार-बार कहा जा रहा है परंतु नगर पालिका परिषद की वित्तीय स्थिति ठीक न होने के कारण इन्फ्रास्ट क्चर का हस्तान्तण जलनिगम से पालिका को किया जाना संभव नहीं हो रहा है।

नगर पालिका की वित्तीय स्थिति को सुदृढ करने हेतु गंगा आईसीडीपी ने 12 विन्दुओं का प्रयास किया है।



रीजनल ब्रेन स्टार्मिंग वर्कशाप (हेल्दी सिटी प्लान, मिर्ज़ापुर) को संबोधित करती हुई नेशनल इस्ट्टीयूट आफ अबरन अफ़ेयर्स की कोआर्डिनेटर मधुश्री मजुमदार। छायाः राष्ट्रीय सहारा

नगर पालिका के सभी संपत्तियों, जल मूल्य अदि को कम्प्यूटराज्ड किया गया। गृह कर, जल कर के बिल, कम्प्यूटर द्वारा प्रिन्ट करके पहली बार 17 सालो के बाद सभी कर दाताओं को भेजा गया। उनको पता चला कि मेरी सपत्ति पर कितना कर बकाया है। क्योंकि कई कर दाताओं द्वारा कर जमा करने के बावजूद भी लेजर में पोस्टिंग न होने के कारण उनके उपर बकाया दिखता था।

वर्ष 1996-97 में 29 लाख रुपये से वर्ष 1999-2000 में 102 लाख रुपये तक की वृद्धि स्थानीय राजस्व में हुई।

एंकउन्टिग सिस्टम को कम्प्यूटराइज्ड किया गया। पूरे एशिया में सर्व प्रथम मिर्जापुर में वर्ष 1996 में ही उत्पन्न आधुनिक किस्म की भोगालिक सूचना पद्धति विकसित की जा चुकी है। जिसमें डाटा बैस को मैप के साथ जोड़ा गया है। जिसकी सहायता से कभी भी किसी प्रापर्टी का विवरण बड़ी ही आसानी से देखा जा सकता है।

वर्ष 1962 केबाद पहली बार वैज्ञानिक पद्धति से सर्वेक्षण करके कर निर्धारण हेतु पारदर्शिता सूत्र की स्थापना की गयी है।

पालिका कर्मचारियों का वेतन बिल तथा प्राविडेंट फंड को भी कम्प्यूटरीकृत किया जा चुका है। नगर पालिका सीमा के अन्तर्गत आने वाली सभी पेयजल लाइन गलियों नालियों आदि को भी कम्प्यूरीकृत किया जा चुका है।

बिल्कुल साधारण तरीके व सस्ते किस्म का पूरे शहर के कूड़े में निस्तारण हेतु दस स्थानों पर क्लेक्शन डिपो का निर्माण, 100 रिक्शा ट्रालियों, 06 ट्रेक्टरों, 06 हाइडालिन व 10 अन्य साधारण टालियों व 60 हैण्डकार्टस के माध्यम से शहर में बिना कूडे ढेर सेकेन्डरी कलेक्शन किये बिना किया जा रहा है।

इसके दर्शाता है कि पालिका केवल कर के बढाने का ही प्रयास नहीं कर रही बल्कि सुविधा देने पर भी बल दे रही है। साथ ही साथ लोगों की सहभागिता के माध्यम से विभिन्न जगहों पर हैण्डपंप की अवस्थापना वनाली खड़ंजा का निर्माण पेयजल पाइप लाइन के बिछाने का कार्य किया जा रहा है। जिसके अन्तर्गत लगभग 20 प्रतिशत लोगों के अपनी भागीदारी दे चुके हैं। कम्प्यूटरीकृत कार्यों को करने में वर्तमान समय में मिर्जापुर के अनुभव के आधार पर 28 रुपया प्रति का खर्चा आने की संभावना है। इसी प्रकार सालिड वेस्ट के सिस्टम विकसित करने 22.50 पैसा व्यक्ति का कर्च वर्ष 1997 में आया है जिसके रख रखावका खर्च मात्र सी रु ही है। कार्यालय में हेल्दी सिटी के कार्यालय की भवन उपलब्धता की मांग उठाई गयी है।

हेल्दी सिटी के लिए पर्यावरण, सालिड वेस्ट मैनेजमेंट, शिक्षा, मास्टर प्लान, रोड बिल्डिंग बाईलाज, पर्यटन विकास, सामुदायिक सहभागिता, इत्यादि विषयों पर विशेष ध्यान दिया जाएगा। नेशनल इंस्ट्टीयूट आफ अरवन अफेयर्स की कोआर्डिनेटर श्रीमती मधु श्री मजुमदार ने कहा कि हेल्दी सिटी प्लान हेतु विभिन्न बिंदुओं की ओर जो ध्यान आकृष्ट कराया है। इसमें जो भी चीजें छूट गयी है।

इसको जोड़कर की प्लान की अंतिम रूप दिया जाएगा। कार्यशाला में मंडला आयुक्त जेपी विश्वकर्मा जिलाधिकारी चन्द्रमा प्रसाद, नगर पालिका परिषद अध्यक्ष गोपालदास चुनाहे, आईसीडीपी टीम लीडर एसके रेलन, प्रभारी सामुदायिक केंद्र अक्षयवर पाल नगर विधायक एवं पूर्व वन मंत्री सरजीत सिंह 'डंग', मुख्य विकास अधिकारी बादल चटर्जी, के.के. मिश्र आदि प्रमुख लोगों ने भाग लिया।

## प्रत्येक पुलिसकर्मी एक बेहतर

## रेणुकूट व्यापार मण्डल का

## ब्लाक प्रमुख के चुनाव को

Annexure V