4. Hospital Perspectives

4.1 Hospital: as Service Industry

Healthcare industry is a wide and intensive form of services which are related to well-being of human beings. Healthcare is the social sector and it is provided at State level with the help of Central Government. Health care industry covers hospitals, health insurances, medical software, health equipment and pharmacy in it. Right from the time of Ramayana and Mahabharata, health care was there but with time, Health care sector has changed substantially. With improvement in Medical Science and technology it has gone through considerable change and improved a lot.

The major inputs of health care industries are as listed below:
1. Hospitals
2. Medical insurance
3. Medical software
4. Health equipment

Health care service is the combination of tangible and intangible aspect with the intangible aspect dominating the tangible aspect. In fact it can be said to be completely intangible, in that, the services (consultancy) offered by the doctor are completely intangible. The tangible things could include the bed, the décor, etc.

In the healthcare industry, as in most other service industries, the interaction between patients and healthcare service providers (professionals and other employees) is an integral part of the service process (Conway and Willcocks, 1997), (Benbassat and Taragin, 1998). Health Care organisations should be encouraged to take the role of the patient into consideration in the healthcare service process, and in order to achieve high quality service respond to patients’ needs and expectations. Another issue that is likely to challenge HCO management is the central role played by employees in Service quality achievement. The cooperation between employees and managers as the key to providing high quality care, because it can compensate for the constraints imposed by cost containment and managed care. In pursuit of this objective, management might seek to implement progressive HRM practices that encourage service oriented behavior and show concern for employees’ organisational and personal needs.
4.1.2 History and Growth of Hospitals in India

Literature suggest that the church at Les Invalids in France showing the often close connection between historical hospitals and churches. Ancient cultures, religion and medicine were linked. The various methods of cure start from faith in Gods and begin from churches, temples and mosque. Institutions created specifically to care for the ill also appeared early in India. The earliest surviving encyclopedia of medicine in Sanskrit is the Charakasamhita (Compendium of Charaka). There is also evidence of Hospital care at the time of King Ashok. Early hospitals in India were built by Ashok (273-232BC) during that time even, the importance of nutritive value of fresh fruit and vegetables were known. Gentle care, personal hygiene and herbal medicines were given to the sick. The Allopathic system of medicine was introduced in India in 16th century. A modern hospital has become highly scientific and complex institution over the years particularly in last three decades. This is due to introduction of diagnostic and therapeutic technologies.

Since Independence, India has achieved remarkable progress in social, political and economic fields. After the liberalization, this progress has been given further fillip, and has been recognized by the advanced countries. In the area of medical science too, commendable progress has been made during this period. Unfortunately, however, hospital administration has lagged far behind. Even the most sophisticated and the so-called modern hospitals in India continue to be governed by the stereotyped system of hospital administration, viz. appointing the senior-most doctor as the Medical Superintendent. He is entrusted with the responsibility of the entire administration of the hospital, irrespective of whether or not he has undergone any formal (or even informal) training in hospital administration. Times have changed and specialization has become the order of the day. It is, therefore, imperative to have separate specialists for general administrative and human resource functions in hospitals. Secondly, with the tremendous expansion in health services, it has become essential to have specialists or experts not only in these two fields, but also in other fields of hospital administration, so that maximum efficiency can be achieved at the minimum cost. Thirdly, the rapidly rising number of patients and the inadequate expansion of hospitals and medical services have thrown the hospital administration machinery completely out of gear. Hence, the need for better planning, organizing, staffing, coordinating and controlling hospitals can hardly be overemphasized.
Hospital administration can no longer be left to continue in the hands of a person who is 'Jack-of-all-trades' and 'master-of-none'. In the past, hospitals could, perhaps, afford the luxury of being no business like and of adopting hit-and-miss methods of management as a number of philanthropists made huge donations to meet the ever-rising deficit in hospital budgets. Similarly, in the field of human resource management, as long as the salary budget comprised only a small portion of the total budget, hospital administration could afford to neglect the introduction of scientific and progressive principles of human resource management. But they can no longer afford to do so as salary and wages now represent 65 per cent or more of the total hospital budget. Let us examine a few definitions of the term 'hospital'.

The term 'hospital' means an establishment for temporary occupation by the sick and the injured. Today hospital means an institution in which sick or injured persons are treated. A hospital is different from a dispensary - a hospital being primarily an institution where in-patients are received and treated while the main purpose of a dispensary is "distribution of medicine and administration of outdoor relief.

A hospital is defined as a room, rooms or building specifically employed for the investigation and continued treatment of the diseased. For the purpose of this study, the Greek iatreion and Roman taberna medica, comparable to the modern physician’s consulting room, are excluded from consideration (Harig, 1971), but it is accepted that under special circumstances these rooms might well have been put to short term use as hospital equivalents (Woodhead, 1952).

The words hospital, hôtel, spital and hospice are all derived from the Latin word hospitium meaning “a place of entertainment for strangers, lodging, an inn, a guest-chamber” (Lewis and Short, 1958). In late Christian times such hospitia were often attached to a monastery and primarily intended for accommodating pilgrims. Today a hospice usually indicates a home for the terminally ill. The word hôtel is an early French term, and is a forerunner of the present word which refers to building offering accommodation to paying guests - with no connection to illness (Aitken, 1984).

The word infirmary (from Latin infirmarium) originally referred to a room or rooms attached to a monastery for the treatment of diseased monks (Aitken, 1984). In the Roman world a valetudinarium referred to a hospital initially solely for the treatment
of military personnel but the word was later also used to denote hospitals for the civic population (Scheider, 1953). In the monastic period the term nosocomium came into use to indicate a small Roman type hospital, while the Greek word xenodochion which initially denoted a home for strangers and the poor, eventually referred to charitable hospitals in the early Christian era (Allen, 1990). During the Golden Age of Islam (9th-13th centuries) the Persian word bimaristan denoted a hospital, while maristan referred to an institution for the insane (Major, 1954); (Porter, 1997). Dorland's Illustrated Medical Dictionary defines a hospital as 'an institution suitably located, constructed, organized, staffed to supply scientifically, economically, efficiently and unhindered, all or any recognized part of the complex requirements for the prevention, diagnosis and treatment of physical, mental and the medical aspects of social ills; with functioning facilities for training new workers in many special professional, technical and economical fields, essential to the discharge of its proper functions, and with adequate contacts with physicians, other hospitals, medical schools and all accredited health agencies engaged in the better-health programme.' A hospital in Steadman's Medical Dictionary is defined as, “an institution for the care, cure and treatment of the sick and wounded, for the study of diseases and for the training of doctors and nurses.” Blackstone’s New Gould Medical Dictionary (McGraw-Hill, New York, 1956,) ‘Describes a hospital as an institution for medical treatment facility primarily intended, appropriately staffed and equipped to provide diagnostic and therapeutic services in general medicine and surgery or in some circumscribed field or fields of restorative medical care, together with nursing care and dietetic service to patients requiring such care and treatment.' 'According to the Directory of Hospitals in India, 1988, ‘A hospital is an institution which is operated for the medical, surgical and/or obstetrical care of in-patients and which is treated as a hospital by the Central/state government/Local body/private and licensed by the appropriate authority’. A close analysis of the above definitions reveals that no single definition is perfect in defining a modern hospital and its multifarious services. Dorland's definition is comprehensive but fails to visualize rehabilitative and follow-up aspects. Steadman’s definition is very simple and, to a great extent, highlights all the essential services. The definition given in the Directory
of Hospitals in India, 1988 is also very simple but too short to cover all the aspects of a hospital.

On the basis of the above definitions, we can evolve a comprehensive definition of a hospital, highlighting all the essential services provided by a modern hospital: ‘A modern hospital is an institution which possesses adequate accommodation and well-qualified and experienced personnel to provide services of curative, restorative and preventive character of the highest quality possible to all people regardless of race, colour, creed or economic status; which conducts educational and training programmes for the personnel particularly required for efficacious medical care and hospital service; which conducts research assisting the advancement of medical service and hospital services and which conducts programmes in health education’.

Modern hospitals are open 24 hours a day. Their personnel render services for the cure and comfort of patients. In the operation theatre, skilled surgeons perform lifesaving surgery. In the nursery, new-born receive the tender care of trained nurses. In the laboratory, expert technicians conduct urine, stool, and blood tests, vital to the battle against disease. In the kitchen, cooks and dieticians prepare balanced meals that contribute to the patient’s speedy recovery.

4.1.3 Complexity of Hospital Industry

Though Hospitals have been compared to industry, there is a distinct difference. The product of a hospital is service to people provided by its personnel with a variety of skills. The nature of the demand for Hospital services is also distinctive to the hospital - as admission to the hospital for services is need driven. The patient leaves his home, family, friends, his work place, and his way of life for a new environment i.e. the hospital where he becomes one of the many. He is housed with strangers and carries out several intimate functions in their presence. Moreover, he encounters the different hospital personnel performing different functions.

4.1.4 Features of Hospital

Peculiarities associated with hospitals:

Vast range of services:

It includes medical research, improved surgical techniques, knowledge and application of newer fields.
Changing Patient Profile:
Consist of different types of diseases requiring wide range of services.

High Cost:
Both these factors have resulted in steep increase in expenditure for starting and running a hospital.

Increasing Use of sophisticated equipment:
Sophisticated equipment increases the cost of operating.

Critical role of employees:
Hospitals are labor intensive. Good quality health care requires expert and experienced medical and paramedical staff.

Public Perception of Medical Services:
Public continues to look upon hospitals as institutions meant to provide their services to the society as cheaply as possible.

4.1.5 Classification of Hospitals
Hospitals have been classified in many ways. The most commonly accepted criteria forth classifications of the modern hospitals are: (a) length of stay of patients (long-term or Short-term), (b) clinical basis, and (c) ownership control basis.

The following is a discussion on the third aspect.

Classification According to Ownership/Control
On the basis of ownership or control, hospitals can be divided into four categories, namely, public hospitals, voluntary hospitals, private nursing homes and corporate hospitals.

Public hospitals: Public hospitals are those run by the Central Government, State Governments or local bodies on non-commercial lines. These hospitals may be general hospitals or specialized hospitals or both. General hospitals are those which provide treatment for common diseases, whereas specialised hospitals provide treatment for specific diseases like infectious diseases, cancer, eye diseases, psychiatric ailments, etc. General hospitals can diagnose patients suffering from infectious diseases, but refer them to infectious disease hospitals for hospitalization, as general hospitals are not licensed to treat infectious-disease patients.

Voluntary hospitals: Voluntary hospitals are those which are established and incorporated under the Societies Registration Act, 1860 or Public Trust Act, 1882 or any other appropriate Act of the Central or state government. They are run with public
or private funds on a non-commercial basis. No part of the profit of the voluntary hospital goes to the benefit of any member, trustee or to any other individual. Similarly, no member, trustee or any other individual is entitled to a share in the distribution of any of the, corporate assets on dissolution of the registered society. A board of trustees, usually comprising prominent members of the community and retired high officials of the government, manages such hospitals. The board appoints an administrator and a medical director to run such voluntary hospitals. These hospitals spend more on patient care than what they receive from the patients. There is, of late, a trend among voluntary hospitals to charge reasonably high fees from rich patients and very little from poor patients. Whatever they earn from the rich patients of the private wards, spend on the patients of general wards. However, the main sources of their revenue are public and private donations, and grants-in-aid from the Central Government, the state government, and from philanthropic organizations, both national and international. Thus, voluntary hospitals run on a 'no profit, no loss' basis.

**Private Nursing Homes:** Private nursing homes are generally owned by an individual doctor or a group of doctors. They admit patients suffering from infirmity, advanced age, illness, injury, chronic disability, etc., or those who are convalescing, but they do not admit patients suffering from communicable diseases, alcoholism, drug-addiction or mental illness. There is, however, no uniform definition for nursing homes. The phrase may refer to out-of-home care facilities that offer a range of services similar to many found in a hospital. These nursing homes are run on a commercial basis. Naturally, the ordinary citizen cannot usually afford to get medical treatment there. However, these nursing homes are becoming more and more popular due to the shortage of government and voluntary hospitals. Secondly, wealthy patients do not want to get treatment at public hospitals due to long queues of patients and the shortage of medical as well as nursing staff leading to lack of medical and nursing care.

**Corporate hospitals:** The latest concept is of corporate hospitals which are public limited companies formed under the Companies Act. They are normally run on commercial lines. They can be either general or specialized or both. What is Trust Hospital? (With Reference to Trust Hospital from Mumbai) Where the Hospital is registered under The Bombay Public Trusts Act, 1950, it is considered to be Trust
Hospital. The Bombay Public Trusts Act, 1950 provides machinery of charity commissioners to regulate the administration of public religious and charitable trusts. It makes registration of all the public religious and charitable trusts including the religious trusts created under Hindu Muslim and Christian personal laws mandatory and prescribes certain norms for the maintenance and audit of budget, and accounts of such trusts and further empowers the charity commissioners to inspect and supervise the property belonging to a public trust and as well the proceedings of the trustees and books of accounts of such a trust. That apart, the act also creates certain restrictions on the investment of public trust money and as well alienation of immovable property of such a trust.

4.1.6 Types of Hospitals

(i) **General hospital:** All establishments permanently staffed by at least two or more medical officers, which can offer in-patient accommodation and provide active medical and nursing care for more than one category of medical discipline (e.g. general medicine, general surgery, obstetrics).

(ii) **Rural hospital:** Hospitals located in rural areas (classified by the Registrar General of India) permanently staffed by at least one or more physicians, which offer in-patient accommodation and provide medical and nursing care for more than one category of medical discipline (e.g. general medicine, general surgery and obstetrics).

(iii) **Specialized hospital:** Hospitals providing medical and nursing care primarily for only one discipline or specific diseases (e.g. tuberculosis, ENT, ophthalmic, leprosy, orthopedic, pediatrics, gynecological, cardiac, mental, cancer, infectious diseases, and venereal diseases). The specialized departments, administratively attached to a general hospital and sometimes located in an annex or separate ward, may be excluded and their beds should not be considered in this category of specialized hospitals.

(iv) **Teaching hospital:** A hospital to which a college is attached for medical/dental education.

(v) **Isolation hospital:** This is a hospital for the care of persons suffering from infectious diseases requiring isolation of the patients.

(vi) **Tertiary hospital:** States and Central Governments set up tertiary hospitals in their capitals where referred patients are treated such as AIIMS, New Delhi, P.G.I. Chandigarh, Sanjay Gandhi, P.G.I., Lucknow, etc.
4.1.7 Types of Management

(i) Central Government / Government of India: All hospitals administered by the Government of India, viz. hospitals run by the railways, military/ defense, mining/ESI/ Post and Telegraphs, or public sector undertakings of the Central Government.

(ii) State government: All hospitals administered by the state union Territory government authorities and public sector undertakings operated by states/UTs, including the police, jail, canal departments and others.

(iii) Local bodies: All hospitals administered by local bodies, viz. the municipal corporation, municipality, zihla perished, panchayat.

(iv) Private: All private hospitals owned by an individual or by a private organization.

(v) Autonomous body: All hospitals established under a special Act of Parliament/ state legislation and funded by the central/state government Union Territory, e.g. AIIMS (New Delhi).

(vi) Voluntary organisation: All hospitals operated by a voluntary body/a trust/ charitable society registered or recognized by the appropriate authority under Central/ state government laws. This includes hospitals run by missionary bodies and co-operatives.

(vii) Corporate body: A hospital runs by a public limited company. Its shares can be purchased by the public and dividend distributed among its shareholders.

4.1.8 Characteristics of Hospital industry

1) Intangibility: Health care services being highly intangible, to beat this intangibility the irony of modern marketing takes place such as use of more tangible features to make things real and believable.

Ways to overcome this drawback:

Visualization: The industry has to make available visualization so that, search and experience qualities are crystallized. E.g. Press releases, distribution of brochures and leaflets, newsletters, digital marketing and media campaigning.

Physical representations: To overcome these more tangible features such as logos, colors are needed to be used, e.g. Apollo hospital logo – A lady with a torch.

Documentation: Quality assurance certificates by service institutions and publishing of annual reports, balance sheets, publishing of customer satisfaction index and ranking numerations.
2) Inconsistency: Quality of service offered differs from one extreme to another. This is because of total dependence on human interactivity or playing human nature, i.e. because human beings can never mechanize or replicate themselves.

Ways to overcome this drawback:
Training: A scheduled Training of the employees in respect of the work/service can prove to be the best solution to this drawback e.g. American Medical Association makes it mandatory for its member doctors to undergo 6 weeks of training every year or 6 month of training every 6 years.

Automation: The service providers analyze that, human quality deteriorates with repetition of work; this has an ill effect during the final delivery of the service; e.g. Automatic blood testing equipment ensuring safety and accuracy.

3) Inseparability: Service transaction becomes unique because it mandates, during transaction, the physical presence of the provider and the consumer.

Ways to overcome this drawback:
Training: This is the best way out for the setback. As the provider of one service cannot be made available at two different places at the same time if the situation demands so, unlike, in the case of products where the producer of the same need not be present at all times where the transaction takes place; e.g. Lockhart and Duncans Gleneagles International as set up a dedicated teaching center for paramedics, particularly, nurses and also provide higher-end courses for doctors.

4) Perishability: Services are intangible, they cannot be packed and neither can be stored nor can they be inventoried. The implication is that the service has to be produced and consumed instantly; there is no scope of storage.

Ways to overcome this drawback:
Managing demand and supply: That is to say that, there has to be provision for all sorts of stipulations at all times to the greatest possible extent; e.g. Service developments according to market needs.

4.1.9 Functions of the Hospital
1. To provide care for the sick and injured
This can be done by accommodating them according to their physical condition and financial status. When we talk of physical condition, we mean that some patients are seriously ill and require admission in Intensive Care Unit while others are not so seriously ill and can be' accommodated elsewhere (e.g. in deluxe room, single room
with AC and without AC, semi-private room and general ward) according to their financial status. There may be some patients who may require isolation. In that case, they should be kept in isolated rooms, but the building should be kept always in a good state of repair, pleasing appearance and providing the patient every mental and physical comfort. In every hospital, there should be sufficient diagnostic and treatment facilities available such as medical laboratory, X-ray, ultrasound, MRI and CT scan for diagnosis, and operation theatre for surgery, labor room for delivery, nursery for children, physical therapy for rehabilitation of patients, so that they may be properly treated.

2. Training of physicians, nurses and other personnel
They receive their training in both theory and practice in approved schools and colleges. Therefore, a hospital being a complex and specialized organization must employ highly trained personnel so that they may train others. Particularly in the branch of medical and paramedical education, different associations/councils play very important roles. They make surveys of hospitals and accord their approval. Only these approved hospitals can provide training in medicine, nursing, dietetics, pharmacy, physiotherapy, administration, medical social work, medical record library, X-ray and medical record technology, etc. Capable boys and girls should be attracted to such courses as a career which offers them fair remuneration, opportunities for self-development and reasonable security.

3. Prevention of disease and promotion of health
It is the duty of the hospital to cooperate with the government agencies. They can treat patients of communicable and non-communicable diseases, notify to the recognized authorities of any communicable disease of which it has knowledge, assist in vaccination programmes of the government, etc.

4. Advancement of research in scientific medicine
In light of the broad social responsibility for maintaining and restoring the health, it is an important function, but no hospital is permitted to do direct experiments on patients. It must resort to necessary tests in laboratories and on animals. They can do so by making observations of functions of the body in health and in disease but they will have to main clinical record of patients accurately for which they have to engage qualified trained medical record technicians who will preserve the record in such a manner that it can be made available for study at any time to physicians and surgeons.
4.1.10 Complications in Hospital Function

A hospital has many organizational and operational elements in common with hotels, industrial organizations and educational institutions. However, a hospital is a unique institution as it includes all activities present in each of the above-mentioned groups. The difference between administrative work in hospitals and in other organizations can be attributed to the existence of the following conditions peculiar to hospitals:

1. The consumers of the services provided in a hospital (the patients) are physically or mentally ill and are rendered services within the four walls of the hospital. As compared with most other institutions of business, government and education, this is an unusual situation and presents quite different problems of management.

2. The customers of the hospital (the patients) have individual needs and require highly personalized and custom-made services, the diagnostic, therapeutic and preventive services provided by physicians, nurses and technicians, with the aid of expensive and specialized equipment and medication are needs of each individual consumer.

3. In addition to the more common institutional services and functions such as food preparation, general housekeeping, laundry, maintenance, purchasing, personnel, credit and collection and public relations, the hospital also provides a wide range of scientific and technical services such as nursing, diet therapy, anesthesiology, pharmacy, radiology, clinical laboratory, physiotherapy and medical social work. Also, many of its services are provided continuously, round the clock, every day of the year.

4. All these services involve many individuals—the ill customer himself, his emotionally tense relatives and friends, physicians, technologists, clerks and manual laborers. These individuals are working, suffering, eating and sleeping within a comparatively small space and in an unusual atmosphere, highly charged with emotion and tension. Only a very capable administrator can adequately understand and effectively deal with the human relations problems arising from these constraints.

5. Nurses and certain other personnel must accept direction from both the matron and the physicians under whom they work closely every day. The human relations problems in such situations of dual authority are much more frequent, delicate, varied and complex than in organizations where this situation does not exist.
6. Handicapped by low wages, rigid discipline and some apprehension of exposure to disease, hospital personnel are expected to maintain a very high level of efficiency, as their functioning affects the lives of patients.

7. Another way in which the responsibilities and activities of the hospital administrator differ from his counterpart in other fields is in the amount and variety of training programmes that the hospital has to provide. Training is provided for medical interns and residents (6 months to 1 year), nurses (3 to 4 years), X-ray technicians (2 years), medical laboratory technicians (2 years), physiotherapists (4 years), pharmacists (2 1/4 years), medical social workers (2 years), dieticians (2 years), nurse aides and nursing orderlies (1 year). Classroom, clinical and apprenticeship training methods are used in varying combinations. The administrator is responsible for planning and operating these various training programmes. Very few other types of institutions combine such major educational responsibilities with other operating activities.

8. Just as administration in hospitals differs from that in most other fields, similarly, public relations aspects and problems of hospitals are more pervasive, delicate and volatile. The human elements—the consumers (patients), producers of care and services (doctors, nurses and other personnel), the variety of community health agencies, the other competing hospitals, the people in the community (relatives and friends of the patients) - and the conditions and environment in which they are brought together (the hospital), present public relations problems of a sort and variety vastly different from those of most other institutions.

9. The efficiency and quality of health care services in any hospital is directly dependent on the use of bio-medical equipment in diagnosis, surgery and therapeutic process. This equipment invariably employs sophisticated technology made of complex systems. Hence, the problem of maintenance and management of these bio-medical equipments is complex because there is acute shortage of technical hands that have suitable and adequate training in the maintenance and repairing of these specialized hi-tech equipments. At times, spare parts and components are not available because the models of this equipment undergo frequent change. Next, the local dealers in India by and large do not provide worthwhile after sales service or repair. The poor hospital administrator is in a fix whether to go for hi-tech bio-medical equipment or use conventional methods of treatment. If he opts for the first,
he either discards these equipment one after another in view of the above mentioned factors, or enhances the cost of treatment. If he does not opt for hi-tech biomedical equipment’s, he loses his clientele.

10. The introduction of Consumer Protection Act, 1986 and subsequently, the Supreme Court judgment bringing doctors under the purview of this act have evoked diverse reactions. While the public is happy about what they call it a long overdue judgment; but the doctors and hospital administrators are not happy at all as it will worsen the patient doctor relationship and surely increase the cost of treatment. The poor hospital administrator will have to attend consumer courts for no rhyme or reason in most of the cases as the patients are not only misled by advocates, but the consumer courts issue notices to doctors and hospitals without understanding the nature of complaints filed by patients. In other institutions, such as hotel or industry chief executives can explain to the advocate, in their office, the line of defense to be taken in the consumer courts before the trial begins, but in case of hospitals, their hospital administrators will have to stand by the side of their advocates to explain each step taken in the treatment of patients by doctors, as neither the advocates nor the judges of the consumer courts possess any medical expertise.

11. Hospital waste management is another peculiar condition to administrative work in hospital and has become a burning issue these days for hospital administrators, as increased awareness of health and its related problems amongst the general public has led to the demand for comprehensive health care facilities which in turn require frequent visits to hospitals by the patients to undergo various tests. This results in the escalating amount of hospital waste generation in the environment. This hospital waste is not like domestic waste, but a potentially hazardous waste. Its unscientific disposal can pose serious problems to the public in general, and the hospital administrator in particular, as it results in increased morbidity due to chemical and radioactive toxicity in the environment and transmission of various diseases. The conventional waste disposal method does not work at all. Hence the hospital administrator faces another peculiar problem what is not faced by a chief executive of a business organization or a hotel in disposing of the waste of their institutions. This distinctiveness of hospital administrations, call for a high degree of professional competence to do justice to the job. It is, therefore, obvious that hospital
administration should be entrusted to those who have the necessary training and the right kind of attitude to perform this vital task.

4.1.11 Innovations in Hospital Industry
- Auto check-in and checkout.
- Specialty hospitals.
- Aromatherapy at Apollo.
- Biventricular pacing.
- Bone bank at AIIMS.
- Hospital administration.
- Medical records management.
- Oxygen under pressure treatment at Apollo.
- Waste management.
- Telemedicine.
- Virtual Hospitals.

4.1.12 Technologies in Hospital Industry
- Same day OPD.
- Online reports.
- Imaging/ MRI Scan.
- Key Hole Surgery.
- Medical transcription.
- Biotechnology.
- Nanotechnology.
- SST: Self checking Machines/ equipments.

4.1.13 Market Segmentation for Hospital
A market is composed of different users having different responses to market offerings. This makes it essential that hospital organizations, especially for making a microscopic study of users’ needs and requirement, make possible grouping of markets. The marketing strategy formulated on the basis for segmenting the market is income. To some extent regional considerations may also be adopted as a base for segmenting the market.

4.1.14 Eight P’s With Reference To Hospital

I. PRODUCT
The main product in a hospital maybe any of the following:
Medical Services
Medical Training
Medical Education
Medical Research

**Medical Services:**
The main products of hospitals are medical services. The services rendered by hospitals or public health centers occupy a place of significance, especially while designing the product mix. In addition to medical care, some hospitals also impart education; training and research facilities and some hospitals also educate and train paramedical officers, nurses and other technical staff. It is thus clear that the nature of the hospital governs the designing of product mix. Medical services can further be classified as follows:

- Emergency
- Out-Patient
- In-Patient
- Intensive Care
- Operation

**Supportive services:**
To enrich the hospital services certain supportive services are found to be important, e.g. like sterilization, supply and maintenance of instruments, materials and garments etc. The *catering department* comprises the kitchen, bulk food stores and dining rooms and supplies meals in the hospital. Heated trolleys have to be used to transport meals to patients. *Pharmaceutical services* also occupy a significant place as they influence the treatment programme of a hospital. An official *laundry* is essential to provide bacteria free garments and clothes. The patients need to be provided with disinfected and clean linen. The *laboratories* need to be properly manned and proper diagnosis needs to be given by them to enable right medical prescription. The establishment of laboratories should be between the OPD and indoors so that both areas are covered without delay or disruption. Clinical pathology, blood bank and pathological anatomy are important areas to streamline functional management of hospital laboratories. The *radiology department* should have hi-tech facilities keeping in mind patient load of the hospital. Currently ultrasound scanning and CAT scanning have been found significant in improving services of the radiology department. The
nursing services are also important among supporting services. Nursing services are managed by a matron who is assisted by a sister-in-charge. The norms accepted by the Indian Nursing Council should be followed. An ideal nurse-patient ratio is 1:5 which is hardly found in Indian hospitals.

Auxiliary Services:
Auxiliary services consist of registration and indoors case records, stores management, transportation management, mortuary arrangement, dietary services, engineering and maintenance service etc. It is important that these services are maintained properly which would govern the successful operation of a particular department. The security arrangements, supplies, transport facilities etc. cannot be ignored. For a hospital registration is a must as it helps in collecting statistics for a hospital e.g. admission, discharge and average stay of patients in the hospital. The central store issues bulk items. There are different types of stores like pharmacy stores, chemical stores, linen stores, glassware stores, surgical stores etc. For carriage of supplies and patients trolleys, wheelchairs and stretchers are used. The hospital also needs a cold storage or mortuary for preservation of dead bodies till they are claimed by relatives or for post-mortem. The dieters department plays a vital role as it provides the hospital menu to meet the needs of patients. The services of well-qualified and trained dieticians help in providing nutritious diets. The engineering and maintenance services are concerned with hospital building, furniture and other equipment. A security force is essential to provide protection to the hospital property. Personnel related with defense or police should be given preference while appointing the security force. Thus the line services, supportive services and auxiliary services are mainly concerned with Medicare facilities available in a hospital. The designing of product mix is meant to make suitable arrangements for improving the level of services in all concerned areas and in this context the medical education, training and research services play a significant part.

Other Auxiliary services provided by some hospitals include

- Rehabilitation center
- Physio therapy
- Occupational Therapy: Occupational therapy trains individuals on activities of daily living which will allow them to return home after getting cured from long drawn diseases
- Speech Therapy:
- De-addiction and mental health:
- Volunteer services: A few examples of areas volunteers can work include:
  - Community Education
  - Emergency Department
  - Environmental Services
  - Information Desks
  - Marketing and Community Relations
  - Medical Records
  - Nutritional Services
  - Patient Care

Medical Education, Research and Training:
The teaching hospitals are mainly engaged in offering medical education facilities. Research and training facilities are also made available in these hospitals where patients are used as inputs for teaching and research both by the teachers and by those who are taught. Medical institutes and medical colleges both offer education, training and research activities with one difference being that the institutes are specialized in a particular field and colleges are generalized.

Levels of Service:

*Core Product:*
- Treatment of human ills

*Expected Product:*
- Infrastructure to support reasonable number of beds
- Operation theatres
- Equipments – like Cardio-respiratory supportive equipment

*Augmented Product:*
- Ambience:
- Central Air-conditioning
- Automation equipments (X-Ray Scanners, Printers, Photo Scanners, etc.)

*Potential Product:*
- Telemedicine and Preventive Care
II. PRICE:

Price is one of the most prominent elements in the marketing mix. Price charged must be acceptable to the target customer and it should co-ordinate with other elements of the marketing mix. Price charged by the hospitals usually depends on treatment prescribed by the respective consultants and the facilities offered to the patients. As the service is intangible it is very hard for determining the price of the particular service rendered on admission, an initial deposit will be collected at the impatient billing counter. The amount depends on the category of room and the treatment/surgical planned. Various category of rooms, ranging from the general ward, which attends to the need of the lower classes to the deluxe suite, which attends to the need of the middle and the upper classes. The prices vary from Rs. 250 for the general ward to Rs 20,000 for the deluxe suite. A hospital does not believe in profit maximization, it aims at providing quality for its customer at a reasonable price.

1 = No income group: He/she is not in a position to earn something and so free of charge services.
2 = Low-income group: He/she earns something and so should contribute a portion of cost.
3 = middle-income group: He/she earns more than low-income group and so should make up the losses on account of low-income group.
4 = High-income group: He/she earns more and should make up the losses on account.

Pricing methods in private hospitals
1. Cost based pricing
2. Competition based pricing
3. Demand based pricing

Differential pricing also takes place:

Externally (between two hospitals) and internally (within a hospital)

Externally: Between 2 hospitals even to provide the same treatment, the prices differ. Even though the operation to be might be the same, pricing differs due to the kind of the service provided pre-post operation cost is associated with the kind of service you provide and so the hospital is bound to charge the patient for it. Lilavati believes that it is not only a service organization but also a business organization but Nanavati believes that providing health care service is a charity it provides 250 free beds thus
differentiating it. Lilavati’s location, the training provider hygiene/ ambience all is other contributing factors.

**Internally:** There is a price differentiation even between the 2 wards of the same hospitals. There is a difference between general ward and special ward where the rooms are air-conditioned and extra services are provided. Thus the pricing would be different even the doctors visiting/consultation charges are different. Sometime if the patient is very poor then the doctor may wave his fees.

**III. PLACE:**
In hospitals, distribution of Medicare services plays a crucial role. This focuses on the instrumentality of almost all who are found involved in making services available to the ultimate users. In case of hospitals the location of hospital plays a very important role. The kind of services a hospital is rendering is also very important for determining the location of the hospital, e.g. Tata memorial hospital specializes in cancer treatment and is located at a center place unlike other normal hospitals, which you can find all over other places.

It can be unambiguously accepted that the medical personnel need a fair blending of two important properties, i.e. they should be professionally sound and should have in-depth knowledge at psychology. A particular doctor might be famous for his case handling records but he may not be made available for all the patients because of the place factor. Now in this case the service provided, that is the doctor may be a visiting doctor for different hospitals at different locations to beat the place factors. Unlike other service industries, under hospital marketing all efforts should be for making available to the society the best possible medical aid. In a country like India, which is geographically vast and where majority of the population lives in the rural areas, place factor for the hospitals play a very crucial role. A typical small village / town may be having small dispensaries but they will not have super specialty hospitals. For that they will have to be dependent on the hospitals in the urban areas.

**IV. PROMOTION:**
Customers need to be made aware of the existence of the service provided. Promotion includes advertising, sales promotion, personal selling and publicity. Hospitals generally do not undertake aggressive promotion; they rely a lot on a favorable word of mouth. To increase the clientele, a hospital may continuously introduce different health services. Hospitals conduct camps in rural areas to give
medical checkups at a reasonable price so that they approach the hospitals in the future. They generally advertise in the health and fitness magazines. As hospitals spend millions of rupees in technology and infrastructure, it becomes necessary, that they attract patients and generate funds.

In order, to do the same, the hospitals follow various marketing and brand building exercises. Some of them are listed below:

1. Many hospitals have eminent personalities from the industry in their Board of trustees. This indirectly leads to increase in, inflow of patients, working in the companies of these Trustees. Besides the presence of eminent personalities creates a sense of confidence in the minds of people.

2. Private hospitals can attract their shareholders by offering discounts. For example, a special discount of 20 percent on all preventive health checks is offered to all shareholders of Apollo Hospitals Limited.

3. Hospitals have a long-term understanding with PPO’s (Preferred Provider Organization), which further have understanding with corporate. Any case of sickness found in the employees of these corporate refer them to the PPO’s which further sends them to the hospital for check-ups and treatment.

4. The success rate of crucial operations and surgeries, reflect the technological and knowledge-based edge of the hospital over the’ competitors. Such successes are discussed in health magazines and newspapers, which become a natural advantage for the hospital.

5. Some hospitals by means of their past track record have created a niche market for themselves. For example, Hinduja is known for its high-quality healthcare at reasonable rates, whereas Lilavati Hospital is known for its five star services.

6. Hospitals hold seminars and conferences relating to specific diseases, where they invite the doctors from all round the country, for detailed discussion. This makes the hospital well known amongst the doctors, who could in future refer complicated cases to the hospital.

7. Hospitals can also promote medical colleges. This helps them to generate extra resources in form of fees using the same infrastructure.

V. PEOPLE:

In hospitals, the marketing mix variable people includes all the different people involved in the service providing process (internal customers of the hospitals) which
includes doctors, nurses, supporting staff etc. The earliest and the best way of having control on the quality of people will be by approving professionally sound doctors and other staff.

Hospital is a place where small activity undertaken can be a matter of life and death, so the people factor is very important. One of the major classifications of hospitals is - private and government. In the government hospital the people factor has to be specially taken care of. In Indian government hospitals except a few almost all the hospitals and their personnel hardly find the behavioral dimensions significant. It is against this background that even if the users get the quality medical aid they are found dissatisfied with the rough and indecent behavior of the doctors.

VI.PHYSICAL EVIDENCE:
It does play an important role in health care services, as the core benefit a customer seeks is proper diagnosis and cure of the problem. For a local small time dispensary or hospital physical evidence may not be of much help. In recent days some major super specialty hospitals are using physical evidence for distinguishing itself as something unique.

Physical evidence can be in the form of smart buildings, logos, mascots etc. a smart building infrastructure indicates that the hospital can take care of all the needs of the patient, e.g. 1.Lilavati hospital has got a smart building, which helps, in developing in the minds of the people, the impression that it is the safest option among the different hospitals available to the people. 2. Fortis and Apollo hospitals have a unique logo, which can be easily identified.

Three aspects of physical evidence are:

- **Ambient Factors:** Smell in the hospital, Effect of Colors used on walls
- **Design Factors:** Design of the rooms, plush interiors, ICU location, etc.
- **Social Factors:** Type of Patients that come to the Hospital

VII.PROCESS:
It is the way of undertaking transactions, supplying information and providing services in a way that is acceptable to the consumers and effective to the organizations. Since service is inseparable, it is the process through which consumers get into interaction with the service provider. Process generally forms the different tasks that are performed by the hospital. The process factor is mainly dependent on the size of the hospital and kind of service it is offering.
VIII. PRODUCTIVITY AND QUALITY:

Reliability: Ensuring that doctors are well trained and experienced
Assurance: Trust, the number of successful treatments
Tangibles: Gate of bldg., surrounding area, surgery equipments, rooms
Empathy: Courtesy shown by nurses, ward boys etc.
Responsiveness: Emergency responsiveness.

4.1.15 Pest Analysis

1. Political Analysis:
   ◆ The government is reducing its hold on subsidies.
   ◆ There are particular pressure groups which tend to have an influence on government hospitals
   ◆ The cost of medicines also tends to affect hospitals besides affecting the pharmaceutical industries
   ◆ Relationships between neighboring countries also affect the hospital sector

2. Economic Analysis:
   ◆ Increase in income would lead to an increase in the standard of living. Thus people’s lifestyles changes and health is better understood. Thus there is a room for specialized treatment, doctors, and hospitals
   ◆ Government has made loans easily available and thus people with limited means could avail better/specialized treatment

3. Social Environment Analysis:
   ◆ Medical facilities have increased since there is more awareness of healthcare among the population
   ◆ Certain percentages of beds have to be kept for poor people. E.g. in Bombay 20% of beds has to be kept reserved for poor people.
   ◆ Look after the needs of local poor people.
   ◆ Open counseling and relief centers.
   ◆ Teach hygiene, sanitation among the poor masses.
   ◆ Safe disposal of hospitals wastes like used injection needles, waste blood etc. and taking due care of environment.
   ◆ Spreading awareness about various diseases through campaigns and free medical checkups.
4. Technological Environment Analysis:

- Breakthrough innovation in the field of specialized equipment
- Communication has managed to bridge the gap between places located at long distances
- Test tube babies
- Mobility of medical services - Mobile phones, credit cards (for payment purposes) etc. have made doctors and medical facilities easily available.

4.1.16 Medical tourism

Medical tourism (also called medical travel, health tourism or global healthcare) is a term initially coined by travel agencies and the mass media to describe the rapidly-growing practice of traveling across international borders to obtain health care. Such services typically include elective procedures as well as complex specialized surgeries such as joint replacement (knee/hip), cardiac surgery, dental surgery, and cosmetic surgeries. As a practical matter, providers and customers commonly use informal channels of communication-connection-contract, and in such cases this tends to mean less regulatory or legal oversight to assure quality and less formal recourse to reimbursement or redress, if needed.

Leisure aspects typically associated with travel and tourism may be included on such medical travel trips. Prospective medical tourism patients need to keep in mind the extra cost of travel and accommodations when deciding on treatment locations.

Factors that have led to the increasing popularity of medical travel include the high cost of health care, long wait times for certain procedures, the ease and affordability of international travel, and improvements in both technology and standards of care in many countries.

4.1.17 Problems faced by the industry

- Low public spending on health
- Lack of adequate beds in the hospitals
- Lack of emphasis on prevention
- Enforcing standards of medical care rendered by hospitals and private health practitioners
- Extremely low bed : people ratio
- Dominated by Government and Charitable Hospitals
Excessive overlap across primary, secondary and tertiary care
Skewed towards urban populace
Lack of adequate corporatization
Insurance to provide financial protection from catastrophic events
More research, awareness and communication and greater public involvement in understanding the health issues.

4.1.18 Hospital Industry - Some Facts

- India’s healthcare industry is currently worth Rs 73,000 crore which is roughly 4 percent of the GDP. The industry is expected to grow at the rate of 13 percent for the next six years which amounts to an addition of Rs 9,000 crores each year.
- The national average of proportion of households in the middle and higher middle income group has increased from 14% in 1990 to 20% in 1999.
- The population to bed ratio in India is 1 bed per 1000, in relation to the WHO norm of 1 bed per 300.
- In India, there exists space for 75000 to 100000 hospital beds.
- Private insurance will drive the healthcare revenues. Considering the rising middle and higher middle income group we get a conservative estimate of 200 million insurable lives
- Over the last five years, there has been an attitudinal change amongst a section of Indians who are spending more on healthcare.

Corporate hospitals mushroomed in the late eighties. The boom remained short-lived and out of the 22 listed hospital scripts, most are being trading below par. An increasingly fragmented market, lack of statistics, capital intensive operations and a long gestation period are all wise reasons to shy away from investing in the healthcare industry. Government and trust hospitals dominate the scene. Many of the trust hospitals suffer from poor management. Good corporate hospitals are still too few to amount to a critical mass.

4.1.19 Factors Attracting Corporate in the Healthcare Sector

- Recognition as an industry:
In the mid 80’s, the healthcare sector was recognized as an industry. Hence it became possible to get long term funding from the Financial Institutions. The government also reduced the import duty on medical equipment’s and technology, thus opening up the sector.
Since the National Health Policy (the policy’s main objective was ‘Health for All’ by the Year 2000) was approved in 1983, little has been done to update or amend the policy even as the country changes and the new health problems arise from ecological degradation. The focus has been on epidemiological profile of the medical care and not on comprehensive healthcare.

♦ **Socio-Economic Changes:**
The rise of literacy rate, higher levels of income and increasing awareness through deep penetration of media channels, contributed to greater attention being paid to health. With the rise in the system of nuclear families, it became necessary for regular health check-ups and increase in health expenses for the bread-earner of the family.

♦ **Brand Development:**
Many family run business houses have set-up charity hospitals. By lending their name to the hospital, they develop a good image in the markets which further improves the brand image of products from their other businesses.

♦ **Extension to Related Business:**
Some pharmaceutical companies like Lockhart and Max India, have ventured into this sector as it is a direct extension to their line of business.

♦ **Opening of the Insurance Sector:**
In India, approx. 60% of the total health expenditure comes from self-paid category as against governments’ contribution of 25-30%. A majority of private hospitals are expensive for a normal middle class family. The opening up of the insurance sector to private players is expected to give a shot in the arms of the healthcare industry. Health Insurance will make healthcare affordable to a large number of people. Currently, in India only 2 million people (0.2% of total population of 1 billion), are covered under Mediclaim, whereas in developed nations like USA about 75% of the total population are covered under some insurance scheme. General Insurance Company has never aggressively marketed health insurance. Moreover, GIC takes up to 6 months to process a claim and reimburses customers after they have paid for treatment out of their own pockets. This will give a great advantage to private players like Cigna which is planning to launch Smart Cards that can be used in hospitals, patient guidance facilities, travel insurance, etc.

The Consultants, Financiers and Insurance Agencies are to benefit from this boom. The insurers will use PPOs that will grow into HMOs, to assume insurance
risks on clients’ behalf. Medical Equipments, Medical Software and Hospitals will see the biggest boom.

The service industry has the following Unique Characteristics:

1. **Intangibility:**

Intangibility means that a customer would have to visualize the service offering. Since the offering cannot be seen or felt there would be no stock and hence one would not be able to keep a track of the sales etc. This characteristic also makes it different to measure the benefits and utilities of the product. An individual would only be able to experience the same. In the product service continuum, hospitals fall in the bracket of highly intangible where the service has credence qualities.

   A. The services of a doctor i.e. the consultation provided by the doctor, his diagnosis etc. cannot be touched felt or seen. One can only visualise the same.

   B. They can also not measure the benefits. These can only be experienced by the customer. There is no ownership over the doctor or the services provided by him.

*The remedial measures to overcome intangibility are:-*

   a. The marketer should visualize the product/service for the patient. In case of hospitals any visual of the hospital displaying the well maintained interiors, the hi-tech equipments used for treatment would help to tangibles the product.

   b. Association: The association of a hospital with any well-known personality would help as a good image building exercise. It would also give the customer a certain level of confidence regarding the services provided in the hospital, e.g. 1. Hospitals like the Tata Memorial Hospital or the Hinduja hospital is associated with Corporate Houses. They are owned by these corporate families. Hence a customer is sure about the services provided in these hospitals. 2. Dinanath Mangeshkar Hospital. Since it is owned by Lata Mangeshkar. The customer is sure to receive quality services.

   c. Physical Representation:

Intangibility could also be overcome in case of hospital through physical Representation in the form of:

- **Color:** The Red Cross signifies the Hospital.
- **Uniforms:** The white uniforms of the Doctors And Nurses in enemy hospitals.
- **Symbols:** The Red Cross is the common logo with which people identify hospitals. Logos of hospitals like Lockhart.
Buildings: In case of hospitals the external appearance of the building or the maintenance i.e. how well maintained it is.

d. Documentation: There are a numbers of hospitals which have received ISO 9000 certificates, e.g. Apollo Hospital.

2. Perishability

A service cannot be stored. So if the service is not consumed immediately then it loses its value, e.g. If a doctor does not reach his dispensary on time or has his clinic locked for that particular day. He loses all his patients for that day.

A situation may also arise when the doctor may be unable to attend to some of his patients due to a huge rush. In such a case again the doctor could lose out on all his patients. Same would be the situation faced by the hospitals. In such a case the hospital too may lose all its patients for that day.

Solution to the problem of perishability

a) In such a situation the doctor can appoint an assistant who could cater to the excess patients or he could have students training under him who during their course of training could also help him with the excess patients, e.g. RajGovind Hospital in CBD appoints interns of Medical College for night duty on a stipend.

b) Peak time Essential Services

In a rush hour situation when there are too many customers to attend to only essential services should be catered to, e.g.1. In hospitals during the late night when accident reporting are high all hands are required at the trauma centers.2. Part time volunteers for national Emergencies.

3. Variability

It means that the quality of service provided to different people may not be the same. (i.e.) Irrespective of the fact that the job carried out by them is the same the service quality may differ because they may be from different backgrounds have different aptitude, skills, attitude etc. e.g. Two doctors, one from a municipal hospital and another from a reputed hospital may treat a person for the same problem. But their quality might differ. In such a case doctors/hospitals are the internal customers and the patients are the external customers.

Since a transaction is always two way communications, customer’s willingness, background, attitude etc. may also effect the transaction, e.g.1. A patient may want to avail of doctors services but may not be able to afford the services. 2. A patient
suffering from Arthritis may be required to lose weight for further treatment. But the patient may not have the drive/willingness to lose weight.

**Solutions**

1) The internal customers or the fresh recruiters could be given training. They could be given a chance to perform the small parts of an operation in order to gain experience.

2) The doctors could be given training and could be updated with all the latest happenings in the medical field in regular intervals, e.g. AMA prescribes for its member doctors 6 weeks training every year and 6 months training every 6 years.

1) Training of External customers

E.g. 1. Diabetic patients are trained to inject insulin on their own.

2. In Case of health care services, a gym instructor may teach his members to use the gym equipments on their own.

3. Auto Diagnostic equipments are used in hospital.

These kinds of training programmes provided to the external customer helps to increase the quality of transaction.

4. Inseparability

For any service to take place it is necessary that both the service provider and the customer be present in the location at the same time, e.g. an operation cannot be conducted without the doctors’ presence. As a result a number of patients due to geographical distances lose out on the opportunity to get them treated from the very best surgeons and doctors.

**Solutions**

This can be overcome to a certain extent through the following:-

1) Training of internal customer:

Here one experienced person can provide training to the amateurs, e.g. a surgeon during an operation is surrounded by interns watching the operation. They could also carry out some small parts of the operation.

2) Innovational Service:

Psychiatrists have innovated group therapy where they call in 10+ patients together to an oval conference table and encourage them to talk about themselves and their ailments.
3) Video Conferencing

Business Conferences, Consultancy and the Medical world. Only recently have instructions for operation through video conferencing been initiated but mostly video conferencing has been used in the medical world as a pedagogical tool, e.g. A unique and rare brain tumor operation can be broadcast live all over the world to subscribed medical colleges.

4.2 Hospital Management
4.2.1. Overview of Hospital
4.2.1.1 History of Hospital Development

Literature suggest that the church at Les Invalids in France showing the often close connection between historical hospitals and churches. Ancient cultures, religion and medicine were linked. The various methods of cure start from faith in Gods and begin from churches, temples and idghas. Institutions created specifically to care for the ill also appeared early in India. The earliest surviving encyclopedia of medicine in Sanskrit is the Charakasamhita (Compendium of Charaka). There is also evidence of Hospital care at the time of King Ashok. Early hospitals in India were built by Ashok (273-232B.C) during that time even, the importance of nutritive value of fresh fruit and vegetables were known. Gentle care, personal hygiene and herbal medicines were given to the sick. The Allopathic system of medicine was introduced in India in 16th century. A modern hospital has become highly scientific and complex institution over the years particularly in last three decades. This is due to introduction of diagnostic and therapeutic technologies.

4.2.1.2 Hospital as a system

A system is a set of interacting or interdependent units and sub-units forming an integrated whole with a clear-cut objective at each level working towards achieving the main objective of the system through the authority and coordination. Human being is an unified system of various systems like, digestive, Circulatory, respiratory and excretory and so on controlled and coordinated by the Central Nervous system the ‘Brain’ Similarly Plants or any living body has a system for its functions and survival. Leaving aside the living beings, the nonliving objects also functions as a system like, a machine, an organisation or an institution so as to fulfill their objectives. A system may be open or closed. An open system is one which has to depend to some extent
with outside environment to full fill the objective. A closed system is one which functions from within to full fill its objective not requiring much help from outside.

4.2.1.3 Hospital as an Organisation

Organising is the process of grouping the various activities into workable units and connecting them through authority, control and co-ordination so as to perform identified jobs for achieving organisation objectives. Every organisation has a structure called ‘Organogram’ and the structure varies according to function. Each organisation has distinct structure, objective and function, therefore differs from each other. Organisation structure forms the basic skeleton of the organisation, which are:-

a) Helps to identify in consistencies and complexities in the organisation structure.
b) Helps to identify major line of decision making authority.
c) It indicates the employees there position, status and role in the organisation.

Each organisation therefore has its own peculiarity to ensure its effectiveness.

Similarly hospital is a social organisation and a rational combination of the activities of a number of persons with different level of knowledge and skills for achieving a common goal of patient care through a hierarchy of authority and responsibility. Hospital organisation is very peculiar and differs from other organization and hence called a ‘MATRIX’ organisation.

4.2.1.4 Changing Role of Hospital

Growth of hospital organisation is slow but steady. Gone those old days concept of ‘poor house’ where the relatives leave their patient to suffer and die. Then came the era of evolution of Hospitals where sick patients were kept overnight for treatment and cure. Since then the role of Hospital is gradually changing from cure to health care and further to community care. Change of Hospital role is related to change in technology and more knowledge about cause of disease and its prevention super added by many legal bindings and challenges.

The modern Hospital has become a complex organisation with new roles and extensive functions. With change in hospital role the manager’s view point in hospital management is also changing.

4.2.1.5 Career as a Hospital Administrator

Hospitals and the medical staff play a very vital role in our society. Each staff of a hospital contributes towards the well-being of individuals in the society. Doctors, nurses, technician, ward boy, attendant, cleaning staff, administrative person everyone
has a unique role to play for smooth functioning of a hospital. This requires a strong administrative setup. As a result "Hospital Administrator” came into the picture. The Hospital Administrator, like doctor, nurse or any other staff of the hospital, plays a huge role in saving people’s lives, but the administrator does not need a scalpel! Hospital Administrator help their medical staffs, have a hand in local publicity, technical and usually has a broad knowledge about health care business, policy and law and management of hospital staff, finance, material resources and services. Therefore, a career as a Hospital Administrator is exciting, fulfilling and demanding. Many young and energetic doctors and nurses are joining various courses relating to hospital and health administration, like PGDHHM, DNB (Hospital Administration), MBA, CHA and MHA to join the stream of trained hospital administrators.

4.2.2. Challenges in Hospital

4.2.2.1. Hospital scenario and Challenges

It has already been emphasized that with changing role the challenges of Hospital has increased two fold in complex modern Hospitals to day. The challenges are not faced from within the hospital only, but from outside and in view of first development in modern technology. Internally, the Hospitals are not only facing the crunch of trained administration, but also there is acute shortage of financial, personal and material resources. There is shortage of adequate trained man power in modern medical applications. Apathy of doctors, nurses and medical staff due to increase pressure of work. Ever-increasing demands of patients for new technology. Externally, the competitive market, concern for quality and rapid expansion to meet the patient’s aspiration. Over and above, the Hospitals have to comply with Government Laws and Act. Patient satisfaction and Public relation are emerging as greater challenges for hospitals to tackle with. In an environment full of challenges has made the management to find new management techniques to cope with.

4.2.2.2 Hospital Public Relation

We have discussed earlier in the hospital system that there is a patient system. Each and every hospital staff comes in contact with hospital patients at some or other form and one or other times. We have also discussed that hospital system is an open system because of its dependency on the external environment.

A hospital cannot exist without dependency or good relation with patients and other public institutions as its basic motto is ‘good patient care’ This type of relation is
called ‘Hospital Public Relation’. If a hospital has to achieve name, fame, morale and prestige for the institution in the eyes of the public, then it has to create and strengthen contacts that can contribute to the development of mutual understanding, respect and reciprocation between the hospital and its public. Therefore, public relation is one of the important components of the hospital and it is a challenge to the survival of the hospital in the community.

Along with keeping a good relation to provide the level of patient and public satisfaction, the hospital needs cooperation goodwill of other public institutions on which it depends to perform its task satisfactorily.

4.2.2.3 Legal aspect of medical care
Apart from his routine and usual “clinical” cases, a doctor will come across certain ‘Medico-legal’ problems at one time or the other during the practice of his profession. Every doctor under law bound by a contract to serve its patient and cannot refuse treatment. Every doctor has to fulfill certain legal requirements in service by compulsion or voluntarily as defined under law.

A good working knowledge of the law in this regard, coupled with a thorough understanding of the correct method of dealing with legal aspects helps one to build confidence over riding the fear of Law.

The Legal aspects of medical practice broadly covers two areas of medical laws
2. Forensic Medicine: It deals with medical aspects of law.

SOURCES OF LAWS

- **Primary Sources**
  - Laws passed by the Parliament or the State Legislative
  - Ordinances passed by the President and the Governor
  - Subordinate legislation: Rules and regulations made by the executive through the power delegated to them by the Acts.

- **Secondary sources**
  - Judgments of the Supreme Court, High Court and Tribunals (The ratio descended is a binding precedent)
  - Judicial legislation
  - Judgment of Foreign Courts
  - International Treaty
4.2.2.4 Medico legal cases

Forensic Medicine deals with medical aspects of law and medico legal case management. Laws regarding MLCs have been described under different part of IPC. In simple language it is a medical case with legal implications for the attending doctor where the attending doctor, after eliciting history and examining the patient, thinks that some investigation by law enforcement agencies is essential. Every doctor under law bound by a contract to serve its patient and cannot refuse treatment. Every doctor has to fulfill certain legal requirements in service by compulsion or voluntarily as defined under law.

Medico legal case (MLC) examination and reporting is one of the legal responsibilities of all doctors working in a hospital. Apart from his routine and usual “clinical” cases, a doctor will come across certain ‘Medico-legal’ problems at one time or the other during the practice of his profession. Many a practitioners are usually apprehensive in dealing with these cases as they feel, an MLC (Medico-legal Case) means involving one in police case. Because of this “fear-factor”, they either try to avoid the cases or try to manipulate them as non MLC. A good working knowledge of the law in this regard, coupled with a thorough understanding of the correct method of dealing with such cases helps one to build confidence over riding the fear of MLC.

4.2.2.5 Consents

Gone are those days when people use to worship ‘Doctor as God’. There believes that whatever a doctor is doing is in their best interest is being eroded due to:-

- Emerging new technologies for diagnosis and treatment
- More complicated diagnostic procedures
- Increasing awareness of people about their health

Now patient has discretion to decide what is good or bad for him. Under the circumstances, consent has become the critical issues in all areas of medical treatment. Consent is perhaps the only principle that runs through all aspects of health care provisions today. It also represents the legal and ethical expression of the basic right to have one's autonomy and self-determination for maintaining a healthy life style. Patient need to give valid consent to medical treatment; and it is his prerogative to refuse treatment even if the said treatment will save his or her life. For this reason Informed consent has become so important, for the defense of both the doctor as well
as his patient, even from the legal point of view. Therefore, it is essential on part of all treating physicians to know about the consent on their daily practice.

### 4.2.2.6 Consumer Protection Act

We have already discussed the various challenges facing a Hospital. To again summarize:-

- Rapid development in Med. Tech.
- Increase Health awareness of people
- Rapid Urbanization
- Increase demand for better facilities
- Active participation of Media
- Legal involvements in hospital affair
- Maintaining peaceful internal environment
- Increased Political interference
- Better and quick communication facilities
- Competitive private health care facilities
- Increase in Senior Citizens
- Higher level of consumers’ expectations
- Marketing of hospital services

1. The biggest nature of challenge is from the Wish list of health care institution, expanded need list of professionals and demand list of users (patient), people and community. All these challenges may lead the hospital vulnerable under ‘Consumer Protection Act’. The consumer Protection Act (1986) came into force on 15th April 1987. The Act was amended by the CPA amended act 2003 and in force from 15.3.2003. It has a three tier quashi judicial machinery of administration and redressed system. The provisions of this act are in addition to and not in degradation of any other law for the time being in force. The sole aim of this act is “To protect the interests of the Consumer.” In view of the risks under CPA all medical professionals must know: What is the content of this Act.

2. What are various implications?

3. How to protect you and your hospital from the clutches of this Act.

### 4.2.2.7 Quality assurance system

Quality assurance is any systematic process of checking to see whether a product or service being developed is meeting specified requirements. Many hospitals have a
separate quality assurance committee devoted to quality assurance. A quality assurance system is said to increase patient’s confidence and a hospital’s credibility, to improve work processes and efficiency, and to enable a hospital to better compete with others. Quality assurance was initially introduced in World War II when ammunitions were inspected and tested for defects after they were made. Today's quality assurance systems emphasize catching defects during the process, before they get into the final output of the product. All dimensions like accessibility, appropriateness, continuity, effectiveness and efficiency must be given equal importance in quality assurance. Quality assurance is gaining importance because of increase consumer’s awareness about health, stiff market competition, growing Medical tourism and finally the growing concern for Patient safety.

4.2.8. Hospital Services and Research

Research is the application of systematic, innovative technologies in the field of health and nursing to increase quality, efficiency, effectiveness and cost control in health care activities.

Objective of Research

- Promoting health and preventing disease.
- Improving quality of life through self-management, symptom management, and care giving.
- Eliminating health disparities.

The research in a hospital assists in:

- To validate improvements in health care practices.
- To make healthcare efficient and cost effective.
- To improve quality of patient care.
- To improve level of patient satisfaction.

The various attributes of Hospital research are:-

1. Research is always directed towards the solution of a problem.
2. Research is always based on empirical and observational evidence.
3. Research involves precise observation and accurate description.
4. Research emphasize to the development of theories, principles, and generalizations.
5. Research is characterized by systematic, objective and logical procedures.
6. Research is marked by patience, courage and measured activities.
7. Research requires that the researcher has full experience of the problem being studied.
8. Research is replicable.
   Research uses systematic method of problem-solving. In research the factors which are not under study are used as controlled. Research requires full skill of writing report and presentation.

4.2.2.9 Patient satisfaction
Patient satisfaction is the core objective of any kind of Medical practice. Patient satisfaction needs total quality management. Both the staff as well as patient is satisfied when the patient’s expectation and perceptions are fulfilled by the organisation. It is therefore a team effort of various categories of staff in the organisation as well as an effective leadership. Here are many factors within the hospital which influence Patient satisfaction and these results in:
1. Greater profitability.
2. Improved patient retention and patient loyalty.
3. Increased patient referrals.
4. Improved compliance.
5. Improved productivity.
7. Reduced staff turnover.
8. Improved collections.
10. Reduced risk of malpractice suit.
11. Personal and professional fulfillment.
12. Name and fame to the organisation

The objective is to develop a quality assurance system in the Hospital.

4.2.2.10 Right of information
Every citizen under the constitution has a right to know the functional status of Government or Public offices. RTI secure access to information that is under control of Public Authorities. The basic objective is:
- To provide a legal framework of citizens’ democratic right to access to information under the control of public authorities.
- To promote transparency.
To promote accountability.
Better record keeping and decision making.

Ideals of any law which should provide transparency to its citizens must provide:
- Maximum Voluntary Disclosures by public authorities.
- Easily accessible – cost effective,
- Provided in local language, and effective method of communication locally.
- Independent and Non-judicial appellate mechanism.
- Stringent Penalty for defiance of the act.
- Empowerment of citizens as per the rights under constitution.

The presentation describes the salient features under this act, which was introduced in 2005 after repealing ‘The Freedom of Information Act, 2002’. Its policy, procedures, and penalty for noncompliance and how to generate awareness about the act among Indian citizen.

4.2.3. Hospital Engineering Services

4.2.3.1. Hospital engineering services

One must be surprised, being a hospital administrator, what is the need of knowing engineering service. But one must not forget that:
- Huge hospital buildings require maintenance and repair.
- Hospital requires Electricity, water supply, air-conditioning, and sewerage disposal for 24x7 days of the year.
- Hospital uses highly sophisticated, heavy equipment and machines for patient care.

Knowing engineering services helps the administrator to plan and take decision in time for smooth running of the hospital. Therefore Engineering Services are perhaps the most vital of the utility services in the hospital. The efficiency of entire patient care delivery system of the hospital depends on their efficiency. Even the slightest breakdown of power supply system, information system communication system or malfunctioning of vital equipment can have catastrophic effects. The scope of engineering services in a hospital comprises of civil assets, electricity supply, water supply including plumbing and fittings, steam supply, central medical gases, air and clinical vacuum delivery system, air conditioning and refrigeration, lifts, public health services, lightening protection, structured cabling, communication system (public address system, telephones, paging system), TV and piped music system, non-
conventional energy devices, horticulture, landscaping, firefighting. Last, but not the least, workshop facilities for repairs and maintenance of equipment. The scope of engineering services generally includes repair and maintenance of existing facilities to ensure optimum operational reliability, risk reduction and their safety for the patient, staff and public. Initial planning and building the civil assets is to include in the scope of services. That’s why it is mandatory for a hospital administrator to know about engineering services.

4.2.3.2 Engineering hazards:
A hazard is anything with the potential to cause harm A Risk Assessment needs to recognise the likeliness and severity of the hazard to do harm (which leads to the precautions to take to minimise the risk) Hazards are: Chemical, Biological, Physical and Ergonomic, Electrical Hazard engineering is concerned with the identification and treatment of exceptional circumstances where the hazards need to be controlled using specialist skills. A control program consists of all steps necessary to protect workers from exposure to a substance or system, and the procedures required to monitor worker exposure and their health to hazards such as chemicals, materials or substance, or other types such as noise and vibration.

4.2.3.3 Hospital Equipment Maintenance
Repair and maintenance of existing facilities to ensure optimum operational reliability, risk reduction and their safety for the patient, staff and public is the objective of maintenance. The quality of engineering services in terms of their outcome and ability to satisfy the expectations of clientele, both internal (doctors / nurses / technicians / management) and external (the patients / their relatives as well as the regulatory authorities) depends on effective maintenance.

Expectations of the Patients
1. There is a regular and uninterrupted power / water supply, the communication system and a comfortable environment (lighting, ventilation, humidity, and noise / odor level).
2. Failure of these services is not the cause of any untoward effect, on their treatment / chances of recovery.
3. The service should be able to provide to them an atmosphere like their home atmosphere.
Expectations of the Doctors / Nurses / Technicians

1. The services optimize the comfort level of the patient.
2. That the services are adequate enough to support the timely performance of the diagnostic / therapeutic procedures.
3. The communication system is efficient and fully reliable.
4. The services do not, in any way, adversely affect the treatment of their patients.

Expectations of the Management

1. No complaints from the patients, staff or the regulatory authorities.
2. Safety of patients, public and staff from all possible hazards related to the facility management.
3. Minimum possible cost of maintaining / operating the facilities / equipment under the charge of the department.

Expectations of the Regulatory Authorities

1. Absolute compliance of all legal provisions and no incidence of violations of the laws.
2. Complete safety of the patients, relatives, public and the staff.
3. No complaints from the public about environmental nuisance.

In view of this Equipment maintenance is one of the vital components of any hospital service and attention to be paid on above factors.

Patient satisfaction and Public relation are emerging as greater challenges for hospitals to tackle with. In an environment full of challenges has made the management to find new management techniques to cope with.

4.2.4 Hospital Clinical Services

4.2.4.1 Out Patient Department (OPD) Services

Out Patient Department (OPD) Services is one of the important aspects of Hospital Administration. To recollect, we discussed the types of hospital services in topic ‘Hospital as a System’ earlier in the blog. Now we will discuss them one by one. We begin with the Primary and Essential services. If you go back to the hospital system you will find the name of OPD services there in primary function. OPD services otherwise called as Ambulatory Care Services. It is a shop window for patients, like window-shopping in a super market where articles are laid down to choose and pick OPD is the mirror of the hospital, which reflects the functioning of the hospital being the first point of contact between the patient and the hospital staff. Patients visit the
OPD for various purposes, like consultation, day care treatment; investigation, referral, admission and post discharge follow up. Not only for treatment but also for preventing and primitive services like, health checkup, Immunization, Physiotherapy and so on. The Ambulatory Care Services is gaining popularity and is in demand due to “Day Care Services” and patient need not stay at hospital. This is helping both the patient and hospital as patient remains at house near the relatives and the hospital is benefited by less demand on hospital beds there by reducing cost on in patients. Therefore, providing the best OPD Services is one of the primary goals of Hospital Administrator.

**Ward planning and management**
- The primary role of the hospital is to provide curative care to the sick through provision of a shelter in the hospital, under direct supervision.
- It requires a systematically organized ‘In patient care’ facility. The organization of in patient service is very important because while providing curative care, there should be provision to look into the patients physical, emotional and psychological needs.
- The patient must feel at home having a clean, peaceful atmosphere, and adequate provision for self-entertainment.
- The attendants visiting the patients must also be provided facilities to wait for some times, and must be satisfied with the hospital sanitation and type of care to their patient.
- There has to be adequate safety and security and privacy for the patients and nutritious diet during the stay.
- All these issues must be given consideration while planning for inpatient housing by the hospital administrator.

**4.2.4.2 Hospital emergency services**
There is a saying ‘The cleanliness of a village is known from the dhobi ghat’, a place where washer-man cleans the clothes. Similarly the functioning of a hospital is known from visiting the Emergency Department. Emergency is the gateway to the hospital, patients with pain and agony, relative emotionally charged enter the emergency department at any hour of the day or night, expecting immediate treatment and solace. Here is how they are received, how to dealt with and how quickly they are attended to their grievances carries the importance for the entire hospital.
A satisfied patient from the emergency is a good messenger for the community. If he and the relatives are happy then it brings not only name and fame to the hospital but a precious life is saved. Therefore, emergency department is one of the most important departments within the hospital services. The rapid urbanization, use of modern machines and transports has resulted in a rapid increase in Road Traffic Accidents and injuries. Presently the Road Traffic Accidents is the 4th major killers among all sickness and injury requiring immediate attention thereby increasing the load on emergency services. It has compelled the planners to think about separate trauma care services. Therefore, Emergency Services in a hospital requires skilled planning. Provisioning and well equipped with skilled man power, adequate supplies and functional equipment and fleet of ALS ambulances to provide treatment at the site within the golden hour to reduce the trauma deaths.
Figure 4.1: The evolution of hospitals

Incubation sleep: Asclepius, attended by Hygiea, treats a sleeping woman. Votive relief, 4th century BC. Piraeus Museum. (Source: *Acta Theologica*)

Asclepius, Epidaurus, in the 5th century (Source: *Acta Theologica*)

Asclepieum on the Tiber island in 293 BC (Source: *Acta Theologica*)
Figure 4.2: The evolution of hospitals-B

British Military Hospital, Balaklava, 1854 (Source: wikimedia.org)

The Holy Ghost hospital built at Montpellier (1145) (Source: wikimedia.org)
**Figure 4.3:** Hospital in modern era

*(Source: emhc.org)*

Ultra-modern ICU  
Hospital General ward

MRI  
C T Scan
4-II Profile of Nashik city

4.3 Historical Perspective

Nashik has a personality of its own, due to its mythological, historical, social and cultural importance. The city is situated on the banks of the Godavari River, making it one of the holiest places for Hindus all over the world. Nashik has a rich historical past, as the mythology has it that Lord Rama, the King of Ayodhya, made Nashik his abode during his 14 years in exile. At the same place Lord Laxman, by the wish of Lord Rama, cut the nose of ‘Shurpnakha’ and thus this city was named as ‘Nashik’. In Kritayuga, Nashik was ‘Trikantak’, ‘Janasthana’ in Dwaparyuga and later in Kuliayuga it became ‘Navashikh’ or ‘Nashik’. Renowned poets like Valmiki, Kalidas and Bhavabhooti have paid rich tributes here. Nashik in 150 BC was believed to be the country's largest market place. From 1487AD this province came under the rule of Mughals and was known as ‘Gulshanabad’. It was also home of Emperor Akbar and he has written at length about Nashik in ‘Ein-e-Akbari’. It was also known as the ‘Land of the brave’ during the regime of Chhatrapati Shivaji Maharaj.

4.3.1 Ramayana Period

No one knows when the city of Nashik came into existence. It is stated to have been present even in the Stone Age. Lord Ram Chandra along with wife Sita and brother Laxman settled down in Nashik for the major time of their ‘Vanwasa’. According to the mythology, Laxman cut the nose (‘Nasika’ in Sanskrita) of ‘Shurpanakha’ and hence the city got the name ‘Nashik’. Long ago, Brahmadeva had meditated in ‘Padmasana’ here, so the city was also called ‘Padma-Aasana’ for some time.

4.3.2 Peshwa Period

In the recent past, the Moguls were fascinated by the beauty of the city and renamed it as ‘Gulshanabad’ meaning the city of gardens. Beautiful fresh flowers were sent to Aurangzeb from Gulshanabad i.e. Nashik. But it was during the rule of the Peshwas, when the place was finally renamed as Nashik. During the Peshwas period, Raghobadada and his wife Anandibai settled down at ‘Anandwalli’ in Nashik. There are some remains of Anandibai’s fort. There is also a temple called ‘Navasha Ganapati’ built by Anandibai. It was during the British rule in April 1818, when Nashik once again regained its importance. The British fell in love with the beauty of the city and developed it in various fields. The Golf course, developed by the British, was one of the largest in Asia. Nashik is surrounded by nine hills, namely: Durga,
Ganesh, Chitraghanta, Pandav, Dinger Ali, Mhasarul, Jogwada, Pathanpura and Konkani. This beautiful city with hills surrounding it has lakes, adding to its beauty.

Rise and Growth of National Movement
In 1869 the region came to enjoy unbroken peace. In 1869 Nashik was made a full-fledged district with its present talukas. With the return of peace Nashik flourished into prosperity. Reasons, political, religious, as well as commercial led to its rapid development. With the construction of the railway, going from Bombay to north-east, from very near the city, religious minded devotees came to be attracted to the town in ever increasing numbers where they made their purchases of various artistic and useful articles. This made Nashik great trade Centre where artisans skilled in manufacturing utensils and smiths excelling in workmanship in silver and gold crowded to ply their trade. Already Nashik was a highly flourishing town even under later Maratha rule and sometime during that period the sow car families like Braves, Vaishampayans and Gadres of the locality started their financial activity. Under Maratha rule they advanced sums to finance military campaigns of feudal Sardars and in their later times their Pedhi's gradually began to finance the flourishing trade in metal ware and fabrics as well as grapes and onions. By the middle of 19th century the British Rule was firmly established and the public life of Nashik began to pulsating with activities suited to the times. In 1840 was established a ‘Native Library Nashik’.

In 1861 an Anglo-vernacular school was started and 1864, the town came to have a municipality of its own. During these days there lived in Nashik a saintly person, known as Dev Mamaledar. His name was Yeshvant Mahadev Bhosekar. He began his career as a humble clerk in the revenue department and gradually rose to the position of Mamaledar. He always had a feeling for the poor and the suffering. During the period of his service as a Mamledar in Baglan Taluka, which has its head quarter at Satana, A severe famine affected the area and Bhosekar generously helped the people to alleviate their sufferings. Heal ways led a virtuous life and spent his spare moments in devout religious practices. In course of time he became so famous that princes and people began to respect him as a saint and called him Yeshvantrav Maharaj. Upon his death in 1887 people raised a small beautiful temple for his Samadhi on the ban of the river where his last funeral rites were performed.

The paved floor around came to be known as Yeshvant Patangana, which has now become a great Centre of public assemblage and activity.
4.2.4 Milestones in the history of Nashik

Some of the major events in the history of Nashik are:

**Table 4.1: Milestones in the history of Nashik**

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1840</td>
<td>Sarvajanik Vachanalaya Established. (Public Library)</td>
</tr>
<tr>
<td>1854</td>
<td>Sharanpur Colony formed</td>
</tr>
<tr>
<td>1861</td>
<td>Deolali Cantonment formed</td>
</tr>
<tr>
<td>1862</td>
<td>Nashik Road Railway Station was built</td>
</tr>
<tr>
<td>1864</td>
<td>Nashik Municipality formed</td>
</tr>
<tr>
<td>1869</td>
<td>Nashik District formed</td>
</tr>
<tr>
<td>1894</td>
<td>Saint Andrew Church built</td>
</tr>
<tr>
<td>1894</td>
<td>Construction work for Victoria Bridge started</td>
</tr>
<tr>
<td>1910</td>
<td>Police Training School established</td>
</tr>
<tr>
<td>1922</td>
<td>Distillery started at Nashik Road</td>
</tr>
<tr>
<td>1927</td>
<td>Security Press formed at Nashik Road</td>
</tr>
<tr>
<td>1941</td>
<td>Artillery Center migrated to Nashik Road from Quetta in Pakistan</td>
</tr>
</tbody>
</table>

(Source: field survey)

4.4 Demography

4.4.1 Population

Population of Nashik recorded the highest ever growth rate between 1941-51. Growth rate of 85% in this decade took the total population figure to nearly a 100,000. This growth was the result of partition of India. Population growth rate started rising steadily after 1961 and Nashik recorded more than the average growth rate for India in two decades, between 1971-1982 the city limit was expanded and Nashik acquired the status of Municipal Corporation with a population of 432,000 souls. Growth rate of 63% for the decade 1971-81 continued in the decade 1981-91. In 2001 Nashik has become a million plus city.

4.4.2 Salient features of Growth and Development

Population growth rate of Nashik has been constantly more than that of Urban India, Maharashtra and nearest metro city of Mumbai between 1981-2001. Growth rate of Nashik (57%, 52.05%, and 63.98 %) is highest among top cities of Maharashtra (Mumbai, Pune, and Nagpur).
Table 4.2: Growth trends of 5 decades in urban areas

<table>
<thead>
<tr>
<th>Census year</th>
<th>All India</th>
<th>% Change</th>
<th>Mah</th>
<th>% Change</th>
<th>Mumbai</th>
<th>% Change</th>
<th>Nashik</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>1951</td>
<td>625.44</td>
<td>-</td>
<td>92.01</td>
<td>---</td>
<td>29.67</td>
<td>---</td>
<td>1.49</td>
<td>---</td>
</tr>
<tr>
<td>1961</td>
<td>789.37</td>
<td>26.43</td>
<td>111.63</td>
<td>17.57</td>
<td>41.52</td>
<td>39.93</td>
<td>2.01</td>
<td>35.16</td>
</tr>
<tr>
<td>1971</td>
<td>1091.14</td>
<td>38.21</td>
<td>157.11</td>
<td>40.74</td>
<td>59.71</td>
<td>43.81</td>
<td>2.74</td>
<td>36.68</td>
</tr>
<tr>
<td>1981</td>
<td>1597.27</td>
<td>46.38</td>
<td>219.94</td>
<td>39.99</td>
<td>82.43</td>
<td>38.05</td>
<td>4.32</td>
<td>57.4</td>
</tr>
<tr>
<td>1991</td>
<td>2180.00</td>
<td>36.48</td>
<td>305.40</td>
<td>38.85</td>
<td>99.26</td>
<td>20.41</td>
<td>6.57</td>
<td>52.05</td>
</tr>
<tr>
<td>2001</td>
<td>2853.00</td>
<td>27.80</td>
<td>411.00</td>
<td>42.40</td>
<td></td>
<td></td>
<td>10.77</td>
<td>63.98</td>
</tr>
</tbody>
</table>

(Source: field survey)

Nashik has grown from a population 21940 in 1901 to 1077236 in 2001. It took Mumbai 157 years to grow from a base population of 70000 in 1744 to a million in 1901. Nashik has achieved this within a short period of 55 years, starting from 1945 to year 2000. Nashik was seventh largest city in 1947 in Maharashtra after Mumbai, Pune, Nagpur, Solapur, Ahmadnagar and Amaravati, all having industrial activities. Now it is the fourth largest. Though Nashik is an industrial city, it has got 13% working population in primary i.e. agricultural sector, and this is more than any of the large cities of Maharashtra. Nashik has the second highest working population in service sector (27%) next to Aurangabad (31%). Hence Nashik is listed in “Industrial cum service” category.

Development plan of Nashik City has 2100 hectares of area allotted for Industrial use, which is 14.09% of the developed area and just 7.31 % of the gross town area. 44.14% of the gross town area is in no Development Zone. This is the zone in which agricultural farms are located. The Industries are located in exclusively planned areas and their growth is regulated through development control regulations.

Township planned by CIDCO has been located between two industrial estates of Satpur and Ambad. This township provides various types of houses and plots for private development. Total area of approx. 400 Ha. Houses 30,000 families besides all other amenities

Nashik is now expanding in all directions along the main arterial roads. The housing areas and commercial establishments, shopping and services like schools, hospitals etc. are in the same zone. Nashik has been blessed with a number of small rivers besides river Godavari. A number of dams constructed in the last 50 years have
improved the availability of water. Nashik could develop to such size and at such speed due to the advantage of its location vis-a-vis Mumbai. The distance is 185 km.

Air link to Mumbai is commenced but not established. Plan for an airport may be realized in future if finance is made available. Telecom department of the Government of India is planning for efficient and reliable digital connectivity in the near future. Nashik is hoping to take advantage of this expecting to attract Information Technology firms.

4.4.3 Population Growth

Nashik Agglomeration

While indicating the list of 63 cities in country, 2001 population of the city has been shown against the name of the city. It is expected that projection of the city could be done including the agglomeration. Infrastructural arrangements need to be such that it can take care of the probable inclusion of the developed agglomerations, time in future. Presently the administrative bodies of these agglomerations (towns or villages) may be different, but they are bound to develop and probable expansion of the city should also be taken into consideration. In case of Nashik city, population of Nashik agglomeration has been shown as 1152326 souls, of which population of Nashik Corporation is 1077236 souls.

In terms of agglomeration there are some locations whose population has been considered. Eklahara village, the Cantonment area and Bhagur town are included in the agglomeration. Cantonment area has major population, of about 50620 souls. Here the development is mainly dealt by the defense administration, it being a restricted area. Similarly, in Eklahara village the major population is due to establishment of Thermal power station colony. Here, the additional developments are all related development of Thermal power station. The population however is a very small proportion. Further, the third location is Bhagur town. It is presently having a population of less than 20000 souls. It has a good infrastructure development since it is very near to the Nashik city corporation area. Roads, water supply are presently adequately developed. It may require to be substantiated with good drainage scheme. Only problem with Bhagur and Cantonment areas is that they are both situated very near to the Darna River. The water supply arrangements are from the Darna River. There is no defined drainage arrangement for both of them, particularly in respect to Bhagur town. Drains are directly or indirectly connected to Darna River, from which
water is lifted for the Nashik Corporation as well as the Eklahara Thermal power station. A regular sewage treatment plant needs to be developed for Bhagur town and for Cantonment. A separate CDP can be prepared by them and implemented on approval, as the local bodies are different. Nashik Corporation can coordinate with related issues.

Population of agglomeration is approx. 8%. Population projection for Nashik city for 2031 has been taken as 37.50 lakhs. In case of combined projection of population for 2001, it may increase marginally or it can be considered that infrastructure for developed for 15 years, will work positively for say some less number of years. Hence, in particular, it is assumed that agglomeration for Nashik does not need any consideration, at present. However, the institutes/local self-government shall be made aware of the fact that they should keep pace with developments of the Nashik Corporation. As per census Nashik city population growth has been indicated in the table. In 1982 Corporation was formed. It included 22 villages in the city area. Decadal growth rate in the three decades is most predominant and indicates the faster growth in comparison with other major cities. Populations for the preceding decades are as per census figures. Population for 2011 is worked out as per the straight-line method as stipulated in the guidelines. Population for year 2021 and 2031 is worked out by graphical method.

Table 4.3: Urban Nashik Agglomeration

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Nashik NMC</td>
<td>1077236</td>
</tr>
<tr>
<td>Eklahare (C.T.)</td>
<td>12013</td>
</tr>
<tr>
<td>Deolali (CB)</td>
<td>50620</td>
</tr>
<tr>
<td>Bhagur M.Cl.)</td>
<td>12457</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1152326</td>
</tr>
</tbody>
</table>

(Source: field survey)
### Table 4.4: Population growth

<table>
<thead>
<tr>
<th>Year</th>
<th>Population(lakh)</th>
<th>Average annual growth rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1981</td>
<td>4.32</td>
<td>---</td>
</tr>
<tr>
<td>1991</td>
<td>6.57</td>
<td>52.08</td>
</tr>
<tr>
<td>2001</td>
<td>10.77</td>
<td>63.98</td>
</tr>
<tr>
<td>2005 (Estimated)</td>
<td>14.22</td>
<td>32.03</td>
</tr>
<tr>
<td>2011 (Projected)*</td>
<td>17.5</td>
<td>23.07</td>
</tr>
</tbody>
</table>

(Source: field survey)

### Table 4.5: Population Decadal Growth

<table>
<thead>
<tr>
<th>Year</th>
<th>Population</th>
<th>Decadal</th>
</tr>
</thead>
<tbody>
<tr>
<td>1971</td>
<td>274482</td>
<td>-</td>
</tr>
<tr>
<td>1981</td>
<td>432044</td>
<td>57.40</td>
</tr>
<tr>
<td>1991</td>
<td>656925</td>
<td>52.05</td>
</tr>
<tr>
<td>2001</td>
<td>1077236</td>
<td>63.98</td>
</tr>
<tr>
<td>2011</td>
<td>1750000</td>
<td>62.00</td>
</tr>
<tr>
<td>2021</td>
<td>2600000</td>
<td>48.50</td>
</tr>
<tr>
<td>2031</td>
<td>3750000</td>
<td>44.25</td>
</tr>
</tbody>
</table>

(Source: field survey)

### Table 4.6: Composition of growth

<table>
<thead>
<tr>
<th>Year</th>
<th>1981-91</th>
<th>% of total</th>
<th>1991-2001</th>
<th>% of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural Increase</td>
<td>116651</td>
<td>52%</td>
<td>210216</td>
<td>50.0%</td>
</tr>
<tr>
<td>In-Migration</td>
<td>38884</td>
<td>17%</td>
<td>210216</td>
<td>50.0%</td>
</tr>
<tr>
<td>Jurisdictional Change</td>
<td>69346</td>
<td>31%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Total Increase</td>
<td>224881</td>
<td>100%</td>
<td>420432</td>
<td>100%</td>
</tr>
</tbody>
</table>

(Source: field survey)
Table 4.7: Sector wise working population in the city

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cultivators</td>
<td>9872</td>
<td>13043</td>
<td>7.68</td>
<td>5.77</td>
</tr>
<tr>
<td>2</td>
<td>Agri. laborers</td>
<td>9764</td>
<td>11840</td>
<td>7.61</td>
<td>5.27</td>
</tr>
<tr>
<td>3</td>
<td>Primary Sectors</td>
<td>19656</td>
<td>24883</td>
<td>15.39</td>
<td>11.00</td>
</tr>
<tr>
<td>4</td>
<td>Household IndustryMfg. Services</td>
<td>3963</td>
<td>65804</td>
<td>308</td>
<td>29.12</td>
</tr>
<tr>
<td>5</td>
<td>Tertiary sectors</td>
<td>104875</td>
<td>135286</td>
<td>81.63</td>
<td>59.98</td>
</tr>
<tr>
<td>6</td>
<td>Total workers</td>
<td>128494</td>
<td>225973</td>
<td>29.74</td>
<td>31.15</td>
</tr>
<tr>
<td>7</td>
<td>Total non-workers</td>
<td>303554</td>
<td>499368</td>
<td>70.26</td>
<td>68.84</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>432044</td>
<td>725341</td>
<td>100.00</td>
<td>100.00</td>
</tr>
</tbody>
</table>

(Source: field survey)

All ward population densities are increasing as per census figures. There will be a limit to maximum density and beyond that people will prefer going in some distance away from the city centers. Also, many of the old bungalows will be demolished and multi storied buildings constructed in their place. Naturally, this will generate a demand for infrastructural developments and amenities to be provided in these areas. This can open up the old core areas of the city and reduce congestion there by. Civic amenities shall need to be provided as near to the new residential areas as possible. It shall have to be assessed well in advance and the growth can be guided as a planned development.

4.5 Economic Base

4.5.1 Industrial Growth

Industrial estate NICE (Nashik Industrial Co-operative Estate) was formed in the co-operative sector in 1962. In the same year, Maharashtra, State Government also responded by declaring MIDC (Maharashtra Industrial Development Corporation) Industrial Estate at Satapur village, 7 km from Nashik. Hindustan Aeronautics Limited established unit for production of MIG fighters at Ozar, a village 20 km from Nashik. In 1967 SICOM (State Investment Corporation of Maharashtra) adapted Nashik as its growth center. All these events brought Nashik on the industrial map of India. MICO (German multinational) and ABB (Swedish multinational) established their production units. The industry that came to Nashik was mostly engineering, electrical
and pharmaceutical. Crompton Greaves, MICO, VIP, CIAT, Mahindra and Mahindra etc. are other important industries.

**Table 4.8: Name and location with area**

<table>
<thead>
<tr>
<th>Sr. no.</th>
<th>Name and location</th>
<th>Area in Ha.</th>
<th>Establishment year</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.</td>
<td>NICE ( Nasik Co-Op Ind.Estate)</td>
<td>135</td>
<td>1962</td>
</tr>
<tr>
<td>3.</td>
<td>Ambbad, Nasik</td>
<td>519.55</td>
<td>1880</td>
</tr>
<tr>
<td>4.</td>
<td>Malegaon co-op. Ind. area, Sinnar</td>
<td>24</td>
<td>1982</td>
</tr>
<tr>
<td>5.</td>
<td>Sinnar M.I.D.C.</td>
<td>520</td>
<td>1988</td>
</tr>
<tr>
<td>6.</td>
<td>5 Star Ind. Estate, Sinnar</td>
<td>7047.01</td>
<td>1992</td>
</tr>
<tr>
<td>7.</td>
<td>Mini M.I.D.C., Peth</td>
<td>5.46</td>
<td>1992</td>
</tr>
<tr>
<td>8.</td>
<td>Mini M.I.D.C., Dindori</td>
<td>32.22</td>
<td>1992</td>
</tr>
<tr>
<td>11.</td>
<td>Co-Op. Ind. At Igatpuri</td>
<td>17.5</td>
<td>Info. unavailable</td>
</tr>
<tr>
<td>14.</td>
<td>Manmad</td>
<td>357</td>
<td>Info. unavailable</td>
</tr>
<tr>
<td>15.</td>
<td>Satana</td>
<td>82</td>
<td>Info. unavailable</td>
</tr>
<tr>
<td>16.</td>
<td>Malegaon</td>
<td>190</td>
<td>Info. unavailable</td>
</tr>
<tr>
<td>17.</td>
<td>Sinnar co-op.Ind.area</td>
<td>374</td>
<td>Info. Unavailable</td>
</tr>
<tr>
<td>18.</td>
<td>Pimpalgaon</td>
<td>37.2</td>
<td>1992</td>
</tr>
</tbody>
</table>

(Source: field survey)

**Table 4.9: No. of Employee or Per Registered Factories under the Factories Act**

<table>
<thead>
<tr>
<th>Area</th>
<th>Unit</th>
<th>Employment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambbad</td>
<td>431</td>
<td>22244</td>
</tr>
<tr>
<td>Satpur</td>
<td>343</td>
<td>36551</td>
</tr>
</tbody>
</table>

(Source: Labour dept.)

Total No. Industries in Nashik district-1993; Employment-09192.

Thermal power plant at Eklahare (220 MW), near Nashik Road, has greatly contributed to meet he power demand of the industries. The success of Satpur MIDC created further demand for additional industrial plots. In 1980, MIDC declared as eco industrial estate at Ambad, a village located on Mumbai- Nashik road, 10km from Nashik.
NICE has also developed special plots of Women’s co-operative and a building with small workshops for women entrepreneurs. Success so far NICE and NIMA at Satpur and Ambad was repeated at Sinnar. Today, Sinnar MIDC is planning for the future high-tech industries.

Nashik can today boast of an industrial region, which produces goods from pins to Aero planes! Industrial activities of Nashik city and district have grown dramatically. In 1971 there were 394 industries in the district with total employment of 19672. Most of the employment privates sector were home-based production. About 7000 persons were engaged in Bidi making (Rolling of Tobacco in leaves). In 1997 there were 7896 small-scale industries and 174 large and medium industries providing total employment to about 66000 workers. Small-scale industries provided employment to about 32500 persons. Large no of industries are of engineering units, followed by electrical, electronics, plastic molding and agro-based industries. The Industrial sector is much more diversified and independent. Public sector employment in establishments like Hindustan Aeronautics Ltd (7800), Currency Note Press (5000), India Security Press (6000), is significant. The role of industry in greening of the industrial areas needs to be acknowledged. The once barren and dry landscape of the areas surrounding the city is now provided with a green cover by the conscious efforts of the industrial community. Agriculture and related activities generally not form a part of urban economy. It was not considered for growth in case of Nashik. But development and progress have many surprises. Nashik has been lucky to have this. Traditionally Nashik had been famous in India for its grapes. Onion is another agriculture crop. Beside these two cash crops agricultural production of Nashik was insignificant. Dairy and poultry were also underdeveloped till the last few years due to absence of services to the farming community. Recently, strawberries, tomatoes, onions have established a very strong market identity all over the country. Packaging of such agricultural products and food processes has also become a cognizable business. Investments, irrigation schemes, electricity, new technologies like drip irrigation, better seeds and other inputs are contributing to increase in production. Grapes, of all varieties, for table consumption or for making wines and grape juice, are cultivated by farmers for French and Australian companies, due to systematic promotional efforts and creation of modern facilities. A host of new wineries have come up in Maharashtra in the last two years, following the futuristic Grape
Processing Industrial Policy of the State Government, announced in 2001. Grape farmers own most of the new Wineries. They have invested anything from Rs. 50 lakh to Rs. 5 crores (from Rs. 5 million to Rs. 50 million) to set up their units and while it is early days as yet, some of the wines are of very good quality. Host of new wineries have come up in Maharashtra in the last two years, following the futuristic Grape Processing Industrial Policy of the State Government, a Grape farmers own most of the new Wineries. They have invested anything from Rs. 50 lakh to Rs. 5 crores (from Rs. 5 million to Rs. 50 million) to set up their units and while it is early days as yet, some of the wines are of very good quality. Roses from Nashik are exported to Middle East. Floriculture projects have emerged where the exotic varieties popular in European markets are grown. Nashik is also taking advantage of the growing local demand for flowers. There are many such farms, small and medium in size, within the city limits of Nashik.

4.5.2 Tourism
Farms and Farm Tourism has been a traditional function of the city. Visitors come to city on auspicious days in large numbers, to have a dip in river Godavari. Godavari is known as a holy river. People assemble in great numbers at Nashik every 12 years. This fair is known as Kumbhamela. The last Kumbhamela houses within city limits and the surrounding areas make Nashik a unique city.

Last it was held in the year 2003 when about five million people visited Nashik. In normal years tourists visit to perform certain religious rites on banks of Godavari and at the numerous temples. Beautiful old temples of Shiva at Trimbakeshwar, Kala Ram at Nashik and Devi (Goddess) temple in the hills of Saptashrungi attract a large number of devotees. Modern temple complexes like MuktiDham and church at Nashik road have become new attractions for tourists. Sai Baba temple at Shirdi in neighboring district attracts people of all faiths.

4.5.3 Occupational Pattern
As per the 2001 census, the total workforce of the city is about 34.2% of the population. The workforce in the tertiary sector is 56.8% of the population and that in the primary sector only 9.17%.

4.5.4 Per capita income
NSDP as reflected in Economic survey shows that as per constant prices gross produce was Rs. 70,60,05,000 in the year 2002-03 and it was raised to Rs. 75,34,23,000
in the year 2003-04 for Nashik district. Gross produce as per current prices in the same period was Rs. 120, 47, 57,000 and Rs. 131, 15, 96,800. Accordingly per capita income as per constant prices is Rs.13699 and Rs.14413 during this period. Similarly, at current prices these figures are Rs.23377 and Rs. 25042. There is a rise of 7.12% in the per capita income. Per capita income for the city is projected in the same way and at current prices it works out to Rs. 35000 (approx.). This is fairly convincing for the flourishing City.

4.5.5 Land use, spatial growth and planning

4.5.5.1 Some Reflections on Nashik Cityscape

Old parts of Nashik including the administrative and residential areas witness the typical overcrowding of Indian cities. Narrow streets of old residential areas are far too inadequate for the commercial use they are converted to and the vehicular traffic is choking them. Public transport systems are inadequate. Most of the people prefer scooters and motorcycles.

4.5.5.2 City Boundaries

The growth in population necessitated the expansion of city boundary from time to time to help provide and extend urban services to the people occupying the peripheral villages and make more land available for urban population. This increase in the area works out to 22 times in one hundred years. The population grew 30 times in same period.

4.5.5.3 Development Plan

A Development plan was prepared for Nashik City in the year 1993. The land use as given in the development plan has been indicative of the fact that a large increase in the population will be accommodated in the DP area. The total Development Area in 1985 was about 27% of the total area with large areas under Agriculture (52.99%) and vacant land (14.25%). In future Developed Area is expected to increase to 52.84% keeping 43.61% for no Development zones and 3.56% for water bodies JNNURM has rightly given the opportunity to bridge the gap as mentioned above. It will try to give justice to developments work to be taken up as planned JNNURM also urges to take the works and complete them before 2013. D.P. Projection year also matches with it. Hence, it has become convenient to review the remaining work to be taken in the DP. However, some items not proposed in DP have also come up in the discussion with the stakeholders and they are worth considering.
4.5.5.4. Urban Planning For Nashik City

Maharashtra state is considered to be most advanced state in the sphere of Urban and Regional Planning and the Maharashtra Regional and Town Planning Act 1966 provides for three tier system of Urban and Regional Planning. It includes Regional Plans (Intermediate or regional level), development plan (city/town level) and town planning schemes (micro level detail plan based or land pooling technique) for selected local areas. Thus there is a statutory Regional Plan for Nashik Region, which is presently under revision for the entire Nashik District, which has been declared as a region, a sanctioned Development Plan of Nashik and two micro level TP schemes within Nashik City limits, contributing to the planned Development of Nashik.

The Development plan for Nashik City under the provisions of M.R. and T. P. Act 1966 was sanctioned by the State Govt. 1995 and will be due for revision by 2015. This Development Plan was prepared for Nashik City in 1988 and was based on physical and socio-economic surveys through which population of Nashik City was projected to be 8.75 lakh for 1995 and 13.00 lakh for 2005, which almost conform to census population and the present demographic realities. The plan proposed land use zoning of various users, an optimum hierarchy of Traffic and Transportation Network and basic social amenities for each neighborhood unit and the hierarchy of city and intermediate level of amenities. The plan also incorporates development regulations with an objective to bring about guided urban development through private section participation. For which a certain criterion in terms of permissible floor space index, marginal distance for various heights of buildings is prescribed. Also for the first time concepts of Transferable Development Rights (TDR) and Accommodation Reservation (AR) is introduced.

4.5.5. 5 Micro-Level Town planning Schemes

In addition to the Development Plan for Nashik City, there are two town planning schemes for selected local areas and by application of Land pooling technique and areas required for roads and basic social amenities have been acquired and developed. By way of summation it could be stated that Nashik City has a very long tradition of Urban Planning through which the process of City Development is guided on desired lines of preplanned development.
4.5.5.6 Review of Implementation of Development Plan

Implementation of Development Plan is to be examined on the basis of three parameters.

(i) Implementation of sites reserved.
(ii) Implementation of hierarchy of Road system proposed.
(iii) Review of development though zoning proposals.

It can be generally said that the final Development Plan of Nashik City has been instrumental in bringing about planned development on a very large scale.

CDP of Nashik Municipal Corporation under JNNURM

The Development Plan envisaged 524 sites for public purposes out of which 72 sites were proposed to be developed though agencies other than the Municipal Corporation which included parasternal agencies like Govt., MSRDC, educational institutions, railways etc. The Municipal Corporation was supposed to develop 452 sites by 2013 out of which 101 sites have been developed by Municipal Corporation, 104 sites are being acquired, and 57 sites have been taken possession of through the Mechanism of T.D.R. and Accommodation - Reservation and thus the implementation including sites under acquisition comes to about 58%.

A Statement giving road lengths proposed in the Development plan is given in the succeeding pages and with the private sector participation, many of these roads have been developed for partial width by the Municipal Corporation except outer ring road and peripheral roads which is a very significant contribution of the Development Plan.

In respect of zoning proposals the existing and proposed land use is indicated in the succeeding pages. The total developable area identified in the D.P. is 14172.36 Hector of which residential zone is 7347.68 Ha constituting 51.80% and area 2500 Hector area is still available for development in the near future.

4.5.5.7 Developmental Potential of Nashik City

While preparing a development plan for the city under M.R. and T.P. Act the Town Planning Officer has to undertake very detailed socio-economic surveys which will be taken up at the time of revision of Development Plan before 2013. At present a quick review of development potential has been taken based on primary census data, SWOT analysis of the city find consensus developed though workshops, meetings
and discussions with public representatives, Administrators and important stakeholders including citizens.

4.5.6 Heritage Resources

Nashik is famous religious center of ancient India. It is situated on the banks of Holy River Godavari. It is believed that Lord Rama resided over here during his period of exile. Due to the importance of river Godavari the religious culture has been developed since historical era. The old city is developed during Maratha Emperor and Peshwas. Many structures, temples, bathing ghats, big residential buildings called ‘Wadas’, were constructed during this period. All these structures and buildings are of great importance in architectural and archeological value.

Following is the list of the Heritage ancient / historical monument sites, and Wadas in Nashik Municipal Corporation limit, which are included in the Sanctioned Development Plan of Nashik Municipal Corporation.

**Apart from the structures, the river itself is a major heritage asset and calls for conservation and revitalization.** The 21 Km. long river stretch of Godavari through Nashik supports an elaborate religious system. An approach of SPOTS and STRECHES would help in analysis and formulating proposals. The spots are specific points along the river front where either the mythical tirthas present ghats, junction of tributaries to the main streams or Sangams occur or one finds waterfalls and places of historical interest. Spot become areas of specific input whereas Stretches are classified by their typical existence or proposed land uses and land forms to yield typical proposals.
Table 4.10: Monuments in Nashik city

<table>
<thead>
<tr>
<th>No.</th>
<th>Name of Monuments</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>01.</td>
<td>Sindar Narayan Mandir</td>
<td>State government protected</td>
</tr>
<tr>
<td>02.</td>
<td>Sarkarwada</td>
<td>State government protected</td>
</tr>
<tr>
<td>03.</td>
<td>Raje Bahhaddur Wada</td>
<td>Un protected (Having excellent wood carving)</td>
</tr>
<tr>
<td>04.</td>
<td>Pardeshi wada</td>
<td>Un protected (Having excellent wood carving)</td>
</tr>
<tr>
<td>05.</td>
<td>Ambedkarwada</td>
<td>Un protected (Having excellent wood carving)</td>
</tr>
<tr>
<td>06.</td>
<td>Bhadrakali Mandir</td>
<td>Un protected (Having excellent wood carving)</td>
</tr>
<tr>
<td>07.</td>
<td>Jathar wada</td>
<td>Un protected (Having excellent wood carving)</td>
</tr>
<tr>
<td>08.</td>
<td>Mirajkar wada</td>
<td>Un protected (Having excellent wood carving)</td>
</tr>
<tr>
<td>09.</td>
<td>Bhalerao pawar wada</td>
<td>Un protected (Having excellent wood carving)</td>
</tr>
<tr>
<td>10.</td>
<td>Matichi Gaddi</td>
<td>Central government protected</td>
</tr>
<tr>
<td>11.</td>
<td>Shivmandir (Near Smashan bhumi)</td>
<td>Un –protected</td>
</tr>
<tr>
<td>12.</td>
<td>Mirlidhar mandir</td>
<td>Un –protected</td>
</tr>
<tr>
<td>13.</td>
<td>Gora ram mandir</td>
<td>Un- protected</td>
</tr>
<tr>
<td>14.</td>
<td>Nikantheshwar mandir</td>
<td>The process of declaring monuments in progress as a state government protected</td>
</tr>
<tr>
<td>15.</td>
<td>Naroshankar mandir</td>
<td>The process of declaring the monuments</td>
</tr>
<tr>
<td>16.</td>
<td>Ahilyabai Holkar Shiv mandir</td>
<td>Un-protected</td>
</tr>
<tr>
<td>17.</td>
<td>Kapaleshwar mandir</td>
<td>Un protected</td>
</tr>
<tr>
<td>18.</td>
<td>Kalaram mandir</td>
<td>The process of declaring the monument</td>
</tr>
<tr>
<td>19.</td>
<td>Sita gumpha temple</td>
<td>Un protected</td>
</tr>
<tr>
<td>20.</td>
<td>Raghoba dada</td>
<td>Un protected</td>
</tr>
<tr>
<td>21.</td>
<td>Pandav Leni</td>
<td>Central Government Protected</td>
</tr>
<tr>
<td>22.</td>
<td>Chambharleni</td>
<td>Un –protected</td>
</tr>
</tbody>
</table>

(Source: field survey)

4.5.6.1 Heritage Tourism

Nashik has a living heritage. Majority of its heritage structures are the temples which are put to the same use as they were in the last 200 years or more. The religious tourism traffic to Nashik, which includes the holy places of Trimbakeshwar and Shirdi, is tremendous all the year round. The Pandav Caves (a group of Buddhist caves) and the Chambar Caves (Jain caves) also attract a lot of tourist traffic.
The major temple complexes are located around the Godavari River Front, which along with the bathing ghats are in the old city area. These were built mainly during the Peshwa period, when the river front was the most important urban space, with the merging of the religious, secular, and commercial junctions.

The River Godavari turns south as it flows under the Victoria Bridge, and thereon up to the Gadge Maharaj Bridge its basin is fragmented into various Kunds (bathing Ghats). These Kunds are distributed between the Sunder Narayan Temple and the Mukteshwar Temple. These Kunds have different significance and history. Most of them were built by the Pehwas and Holkars in the 16th and 17th century there is fifteen of them, of various sizes:

**Table 4.11: Kunds at Nashik**

<table>
<thead>
<tr>
<th></th>
<th>Kund Name</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Gopikabai Kund (1761 A.D.)</td>
<td>30’x10’x10’</td>
</tr>
<tr>
<td>2</td>
<td>Laxman Kund (1728 A.D.)</td>
<td>68’x54’</td>
</tr>
<tr>
<td>3</td>
<td>Dhanushya Kund (1728 A.D.)</td>
<td>50’x6’</td>
</tr>
<tr>
<td>4</td>
<td>Ram Kund (rebuilt in 1782)</td>
<td>60’x40’</td>
</tr>
<tr>
<td>5</td>
<td>Sita Kund</td>
<td>33’x30’</td>
</tr>
<tr>
<td>6</td>
<td>Ahilya Kund</td>
<td>60’x42’</td>
</tr>
<tr>
<td>7</td>
<td>Sharangpani Kund</td>
<td>39’x85’</td>
</tr>
<tr>
<td>8</td>
<td>Maruti Kund</td>
<td>50’x50’</td>
</tr>
<tr>
<td>9</td>
<td>Kund and Five Temples</td>
<td>115’x20’</td>
</tr>
<tr>
<td>10</td>
<td>Ashwamegh Kund</td>
<td>216’x90’</td>
</tr>
<tr>
<td>11</td>
<td>Ramgaya Kund (1780 A.D.)</td>
<td>110’x90’</td>
</tr>
<tr>
<td>12</td>
<td>Pehwe Kund (1780 A.D.)</td>
<td>260’x90’</td>
</tr>
<tr>
<td>13</td>
<td>Khandoba Kund (1761-79)</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Oak Kund (1791 A.D.)</td>
<td>122’x49’</td>
</tr>
<tr>
<td>15</td>
<td>Vaishampaya Kund (1780 A.D.)</td>
<td></td>
</tr>
</tbody>
</table>

(Source: field survey)

Various temples were built by the rulers, each having a part in the rituals and myth:

1. Sinhasta Godavari Temple: located at the north of Ramkund opens once in 12 years for one year at the time of Kumbhmela and twice in a year for Dashera and Tripuri Poornima.
2. Ganga Godavari Temple: located on the east of Ramkund, it has two idols of Godavari and Bhagirathi. Various rituals, pujas, Saptarishi reciting and aartis take place here. During Ganga Godavari janmotsav, yagnas, pravachans, puran and religious discourses, educational and social activities take place.

3. Godavari Mandir: located near the kapaleshwar Temple, it is a place for daily puja and aartis. Navaratri is celebrated and a Vedic school is run in the premises of the temple.

4. KapaleshwarMandir: located on the east of Ramkund on a hillock. Mahapuja takes place here every Saturday night from 8 to 11 pm. and on every monday, pradosh and mahashivratri a palkhi (procession) starts from the temple for abhishek to Ramkund passing through the Ram temple.

5. Sashrungi temple: Dashera is celebrated here besides daily rituals.

6. Naroshankar Mandir: located near the Gadge Maharaj Bridge, it was built by the Peshwas after their victory over the Portuguese.

7. KalaramMandir: is one of the important temples built by GopikabaiRaste, a relative of the Peshwas. Its construction took 12 years. The temple has 4 doors and its main entrance is on the west. The main temple and the sabhamandapa are intricately carved and the outer wall is lined with columned corridor to accommodate devotees. The Ramnavi festival is celebrated for fifteen days and the most interesting part is the rath-yatra through the city with two chariots- one of Lord Rama and Lord Hanuman, pulled by the members of the RasteAkhada.

Apart from the above temples there is the area of five ‘vads ’ (banyan tree), Panchavati, and the sitagufa (cave), which attracts the tourists.

4.5. 6.2 Heritage Conservation

There are three conservation issues; the conservation of the river, the conservation of heritage structures, and the conservation of the areas around these structures as well as the old city streets.
Map 1: Location map of Maharashtra.

(Source: www.mapsofindia.com)
Map 2: Map of Nashik district.

(Source: www.mapsofindia.com)
Map 3: Map of Nashik city.

(Source: www.nashikcorporation.gov.in)
Map 04: Locations of sampled hospitals in the Nashik city.

(Source: www.maps.google.co.in)

1 Sampled hospitals

1 Confidentiality requested regarding identity of the hospital
References


