

CHAPTER 1

INTRODUCTION

1.1 Background of the Survey

The Ministry of Health and Family Welfare (MOHFW), Government of India, has sponsored the development of 18 Population Research Centres (PRCs) located in universities and institutes of national repute throughout India. In 1991, the MOHFW initiated the Project to Strengthen the Survey Research Capabilities of the PRCs (PRC Project) with financial support from the United States Agency for International Development (USAID). The National Family Health Survey (NFHS) was undertaken as one important component of the PRC Project.

The NFHS covers the population in 24 states and the National Capital Territory of Delhi (the erstwhile Union Territory of Delhi, which recently attained statehood), containing 99 percent of the population of India. The NFHS is a household survey with an overall sample size of 89,777 ever-married women in the age group 13-49. Because of the scale of this undertaking, the data collection under the NFHS was carried out in three phases in 1992 and 1993 (see Table 2.1 in Chapter 2 for a list of fieldwork dates in each state). Andhra Pradesh, Himachal Pradesh, Madhya Pradesh, Tamil Nadu and West Bengal were covered during the first phase. Assam, Goa, Haryana, Karnataka, Kerala, Maharashtra, Rajasthan and Uttar Pradesh were covered during the second phase. Arunachal Pradesh, Bihar, Gujarat, the Jammu Region of Jammu and Kashmir, Manipur, Meghalaya, Mizoram, Nagaland, Orissa, Punjab, Tripura and the National Capital Territory of Delhi were covered during the third phase.

The NFHS is a collaborative project of the International Institute for Population Sciences (IIPS), Bombay; all the PRCs; several Consulting Organizations (COs); and the East-West Center/Macro International, United States of America. The MOHFW designated IIPS, Bombay, as the nodal organization, responsible for providing coordination and technical guidance for the NFHS. The PRCs participated in all stages of survey implementation for the states in which they are located. IIPS and the PRCs collaborated with a number of COs in India for survey implementation. Each CO was responsible for facilitating survey activities in one or more states covered by the NFHS (see Appendix A for a complete list of the PRCs and COs involved in the fieldwork in each state). Technical assistance for the NFHS was provided by the East-West Center/Macro International.

1.2 India's Historical Background

India is one of the oldest civilizations with a kaleidoscopic variety of people and a rich cultural heritage. The river Sindhu gave India its name. In the language of the Aryans who invaded India from the northwest 2,000-3,000 years ago, the word "Indus" (which was given to the river Sindhu) meant "river" or "flood". It was first applied to the river, then to the land drained by the river, and finally to the whole country. Although it is impossible to give a full account of Indian history in a few paragraphs, an attempt is made here to briefly sum up the most important historical events that occurred both before and after India became an independent nation in 1947.

Early India

A dark-skinned people, known as the Dravidians, are regarded as the aborigines of India, although the great variety of racial types found among the peoples is due to the many migrations into the sub-continent that have taken place during the past 5,000 or 6,000 years. In 1921, excavations in the Indus Valley at the sites of Harappa and Mohenjo Daro have shown that as early as 3000 B.C., India was the home of a civilized people, who lived in well-planned towns, practised agriculture, and were skilled craftsmen. Between about 1500 and 200 B.C., Aryan-speaking tribes from Central Asia streamed into India through the Khyber and other northwest passes. These groups eventually controlled the whole of northern India as far as the Vindhya belt of hills, pushing the original inhabitants further south in the process. They imposed their culture on the civilization they found there, and from the combined cultures arose the philosophy, religion, art, and letters that were the glory of ancient India. The Vedic texts reveal that the Aryans, in their efforts to maintain themselves in the rich plains of the Land of the Seven Rivers, waged incessant warfare on the non-Aryan tribes (the latter called *Dasa* or *Dasyu*), and extended their dominion as far as the Ganges delta to the east and along the coasts which flank the central plateau to the south. These events occupy the centuries of the growth of Vedic literature. Vedic texts refer to different tribes who achieved supremacy, the most important being the Bharatas and their descendants the Kuru-Panchalas, who later made Kurukshetra (Rohilkhand) the centre of the Brahmanic culture, and the clans of Videhas in north Bihar whose power came to an end only shortly before the rise of Buddhism (Renou, 1959).

The Buddhist texts mark a new shift of the centre of gravity toward the east, with the establishment of the kingdom of Magadha (south Bihar). Two of its rulers, Bimbisara and his son Ajatashatru, are contemporaries of the Buddha (whose Nirvana took place in 543 B.C.) and also of Mahavira. On the death of Ajatashatru, the dynasty relapsed into obscurity. The subsequent dynasty of the Nandas was overthrown by Chandragupta, who founded the first great Indian empire (of the Mauryas) around 320 B.C.

During the period when the Aryans were consolidating their hold on northern India, the heartland narrowly missed two other invasions from the northwest. The first was by the Persian king, Darius (521-486 B.C.), who annexed Punjab and Sindh to his empire. Not long afterwards (in 326 B.C.), Alexander the Great reached India in his epic march from Greece. However, his troops refused to march further than the Beas river, the easternmost extent of the Persian Empire he had conquered, and he turned back without extending his power into India itself.

It was Chandragupta who put an end to Greek rule, at least on the left bank of the Indus. At the same time, he overthrew the last of the Nandas and seized the throne at Pataliputra (Patna), consolidating his power over the whole of northern India. With his grandson Asoka (around 260-227 B.C.), the Mauryan empire attained its greatest height. Asoka conquered Kalinga (Orissa) in a sanguinary war, and extended his power over a territory which eventually included all of India, except the extreme south and part of Afghanistan. Disillusioned by the bloodshed accompanying the war, Asoka embraced Buddhism and propagated the religion in many other Asian countries. Following the death of Asoka, the empire rapidly disintegrated and finally collapsed in 184 B.C.

A number of empires rose and fell following the collapse of the Mauryas. The successors of Alexander's kingdoms in the northwest expanded their power into the Punjab and this later developed into the Gandhara kingdom. During the first century of the Christian era, the Kushana empire was established. The frontiers of this kingdom reached as far as the cities of Ayodhya, Banaras and Pataliputra. Kanishka, one of the Kushana kings, who set up his capital at Purushapura (Peshawar), is celebrated especially for having convened an important Buddhist council.

From 318 A.D., the great Gupta dynasty established itself in the region of Pataliputra. It assumed importance first with Chandragupta I, and later with his successor Samudragupta. Samudragupta reigned up to 380 A.D. and subdued almost the whole of India, either by direct annexation of principalities or by maintaining vassal states. His reign and those of his immediate successors saw the golden age of Indian civilization. Chandragupta II, surnamed Vikramaditya (380-413 A.D.), extended his domain still further by wars and alliances. His name has been made legendary by the memory of a magnificent court and the "nine jewels" which adorned it, among whom the poet Kalidasa is included. The Gupta empire disintegrated when the Huns invaded from Central Asia. Harsha Vardhana succeeded in establishing a stable empire at Kanyakubja (Kanauj), from 607 to 648 A.D., the last in pre-Muslim India. As a result of successful campaigns, he won recognition from the princes of north India. On the death of Harsha, disintegration proceeded still further.

The southern parts of India were not very much affected by the kingdoms that rose and fell in the north of the country, and the historical developments in this region took place more or less independently from the developments in the north. The south's prosperity was based upon its long-established trading links with other civilizations. The Egyptians and later the Romans traded by sea with the south of India and, later still, strong links were formed with Southeast Asia. Other outside influences which came to the south of India in this period included St. Thomas the Apostle who is said to have arrived in Kerala in 52 A.D. To this day, there is a strong Christian influence in that region.

The great empires that rose in the south included the Cholas, Pandyas, Cheras, Chalukyas and Pallavas. The Chalukyas ruled mainly over the Deccan region of central India, although at times their power extended further north. With a capital at Badami in Karnataka, they ruled from 550 to 753 A.D. before they were defeated by Rashtrakutas - only to rise again in 972 and continue their rule through to 1190. Further south, the Pallavas pioneered Dravidian architecture with its exuberant, almost baroque, style. In 850 A.D., the Cholas rose to power and gradually superseded the Pallavas. They too were great builders, and they carried their power overseas. Under the reign of Raja Raja (985-1014 A.D.), they controlled almost the whole of southern India, the Deccan, Sri Lanka and parts of the Malay peninsula and the Sumatran-based Srivijaya kingdom.

India Under the Muslims

While the Hindu kingdoms ruled in the south and Buddhism was fading in the north, Muslim power was approaching India from the Middle East. Less than a century after the death of Prophet Mohammed, there were raids into the Sindh and even Gujarat by Arabs. Muslim power made itself strongly felt in the subcontinent with the arrival of Mahamud of Ghazni in

Afghanistan. He raided northern India through the province of Lahore 15 times between A.D. 997 and 1026. It was not until 1192 that Muslim power arrived on a permanent basis. In that year, Mohammad of Ghori, who had been expanding his powers across the Punjab, moved into India and took control of Ajmer. The following year, his general, Qutb-ud-din, captured Varanasi and Delhi. After Mohammad Ghori was killed in 1206, Qutb-ud-din became the first of the Sultans of Delhi. Within 20 years the whole of the Ganges basin was under the control of the Delhi Sultanate.

Once again events took a different path in the south than in the north. The Aryan invasions never reached the south and the early Muslim invasions also failed to permanently affect events there. Between 1000 and 1300 A.D., the Hoysala Empire, with centres at Belur, Halebid and Somanathapur, was at its peak. This empire fell to a predatory raid by Mohammed Tughlaq in 1328, and then to the combined opposition of other Hindu kingdoms. Two other great kingdoms developed in the north of modern-day Karnataka - one Muslim and one Hindu. With its capital at Hampi, the Hindu kingdom of Vijayanagar was founded in 1336. It was probably the strongest Hindu kingdom in India during the time the Muslim Sultans of Delhi were dominating the north of the country. Meanwhile, the Bahmani Muslim kingdom also developed, but in 1489 it split into five separate kingdoms at Ahamadnagar, Bijapur, Golconda, Bidar, and Berar. In 1520, Vijayanagar took Bijapur, but in 1565 the kingdom's Muslim opponents combined to destroy Vijayanagar in the epic battle of Talikota. Later the Bahamani kingdoms were to fall to the Mughals.

In the sixteenth century, a new conqueror, Babur the Mughal, overthrew the other Muslim powers of northern India. Originally from Turkestan, Babur led four expeditions through northwestern passes. In his fifth expedition, he defeated Sultan Ibrahim, the last Lodi king of Delhi, on the field of Panipat in 1526 and founded the Mughal Empire. His dominions extended over part of northern India. Akbar (1556-1605), the grandson of Babur, was the greatest of Mughal emperors. Up to this time the Mughal sway in India had been little more than a military occupation, but Akbar left to his son Jahangir (1605-27) a strong and well administered empire. For about a hundred years from the accession of Jahangir, the Mughal Empire was governed by a line of able and powerful rulers. In the reign of Shah Jahan (1627-58) the southern Muslim kingdoms of Bijapur and Golconda acknowledged the sovereignty of Delhi. In the reign of Aurangzeb (1658-1707), there was a gradual rise of the Marathas led by Sivaji (1627-80), who successfully resisted Mughal efforts to crush him and gradually extended his sway over southern India. The descendants of Sivaji in the second generation reigned only as pageant kings at Satara, and the real sovereignty passed to their Brahmin minister or Peshva, Balaji Vishvanath, who founded a dynasty seated at Poona. The Maratha power still grew, and by the middle of eighteenth century threatened every settled government from Cape Comorin to Bengal and Rajputana. In 1776, a terrible defeat on the field of Panipat by the Afghan invader of India, Ahmad Shah Durrani, drove them back, but the conqueror returned to his own country and the Marathas soon recovered their position.

India Under the British

The British were not the first European power to arrive in India, nor were they the last to leave. In 1498, Vasco da Gama from Portugal arrived on the coast of modern-day Kerala, having sailed around the Cape of Good Hope. Pioneering this route gave the Portuguese a

century of uninterrupted monopoly over Indian and Far Eastern trade with Europe. In 1510 they captured Goa, the Indian enclave they controlled until 1961, 14 years after the British had left India.

In 1612, the British made their first permanent inroad into India when they established a trading post at Surat in Gujarat. In 1600, Queen Elizabeth I granted a charter to a London based trading company giving them a monopoly on British trade with India. For 250 years British power was exercised in India not by the government but by the East India Company which developed from this initial charter. British trading posts were later established at Madras, Bombay and Calcutta.

The British and Portuguese were not the only Europeans in India. The Danes and Dutch also had trading posts. In 1672 the French established themselves at Pondicherry, an enclave that they, like the Portuguese in Goa, held even after the British had finally departed.

The stage was set for over a century of rivalry and violent contest between the British and French for control of Indian trade. In 1756, Siraj-ud-daula, the Nawab of Bengal, attacked Calcutta and outraged the British. A year later, Robert Clive retook Calcutta. In the Battle of Plassey, he defeated Siraj-ud-daula and his French supporters, thus not only extending British power but also curtailing French influence. The victory ushered in a long period of unbridled profiteering by members of the East India Company until its powers were taken over by the British Government in the nineteenth century.

India at this time was in a state of flux due to the power vacuum created by the disintegration of the Mughal Empire. The Marathas were the only power to step into this gap. In the south where the Mughal influence had never been so great, the picture was confused by the strong British-French rivalries, with one ruler consistently played off against another. Tipu Sultan of Mysore fought a series of wars with the British. In the fourth Mysore war in 1799, Tipu was killed at Srirangapatnam and the British power took another step forward. The long running British struggle with the Marathas was finally concluded in 1803.

By the early nineteenth century, India was effectively under British control. The British followed a policy of divide and rule with great success and negotiated distinctly one-sided treaties giving them the right to intervene in local states if they were "inefficiently" run. Even under the British, India remained a patchwork of states, many of them nominally independent but actually under strong British influence. This policy of maintaining "princely states" continued right through to independence. The British interest in trade and profit resulted in the expansion of iron and coal mining; the development of tea, coffee and cotton growing; the construction of the basis of today's vast Indian railway network; the commencement of irrigation projects which revolutionized agriculture; the establishment of a post and telegraph network; and a well-developed and smoothly functioning government and civil service structure (Roberts, 1967).

There was, however, a price to pay for these achievements. Cheap textiles from the new manufacturing industry of Britain flooded into India, virtually crippling the local cottage industries. The British outlawed *sati*, the Hindu custom of a wife burning herself on her husband's funeral pyre, but they encouraged the system of *zamindars*. These absentee landlords

eased the burden of administrative and tax collection for the British, but contributed to an impoverished and landless peasantry in parts of India. The British also established English as the local language of administration. While this may have been useful in a country with so many different languages and still fulfils an important function in nationwide communication, it did keep the new rulers, to varying degrees, at arm's length from the Indians.

In 1857, less than half a century after Britain had taken firm control of India, they had a serious setback, because of the "Indian Mutiny". The Mutiny was never really coordinated and soon died out. It was following this Mutiny that the East India Company was wound up and administration of the country was handed over to the British government.

Two parallel developments during the latter part of the nineteenth century paved the way for the independent India of today. First, the British slowly began to hand over power and bring more people into the decision making process. At the same time, Hinduism underwent a resurgence under reformers like Raja Ram Mohan Roy, Ramakrishna Paramahansa, Swami Vivekananda and Sri Aurobindo. With the turn of the century, opposition to British rule began to take on a new light. The Indian National Congress, which had been established to give India a degree of self-rule, began to push for independence, under the leadership of Mahatma Gandhi. Mahatma Gandhi adopted a policy of passive resistance, or *satyagraha*, to British rule. The central pillar of his achievement was to broaden the scope of the independence struggle from the middle classes to the peasants and villagers. After the Second World War, when the Labour Party won the British elections, the drive for India's independence was strengthened. However, there was a divide within India along purely religious lines with the Muslim League, led by Muhammad Ali Jinnah, seeking a separate Muslim nation. Nevertheless, India finally achieved independence with a declaration by Lord Louis Mountbatten, the then viceroy, at midnight on 15 August 1947.

Independent India

With India's independence, the country was divided into two parts: India and Pakistan. Pakistan had an eastern and western region divided by India. Following partition, the greatest exodus in human history took place east and west across the Punjab. Trainloads of Muslims, fleeing westward, were held up and slaughtered by Hindu and Sikh mobs. Hindus and Sikhs fleeing to the east suffered the same fate. By the time the Punjab chaos had run its course, over 10 million people had changed sides and at least 250,000 people had been killed. An additional million people changed sides in Bengal. The final stages of Independence witnessed one last tragedy on 30 January, 1948, with the assassination of Mahatma Gandhi, who was deeply disheartened by Partition and the subsequent bloodshed.

The first Indian government, headed by Prime Minister Jawaharlal Nehru, had to face a number of other problems the country had inherited from the British apart from the partition of India. One of these was the princely states, large and small, numbering about 362. The British had renounced their treaty rights and had advised all to join one or the other of the two new states. By independence, all but Hyderabad, Kashmir, Junagadh and Travancore had joined either India or Pakistan. Sardar Vallabhbhai Patel, who is known as the Iron Man of India, was largely instrumental in persuading these princely states to join the Indian Union.

Nehru's prescription against poverty was industrialization, and he established the National Planning Commission with himself as the first chairman. The Planning Commission drew up a succession of five-year plans for national development. Another major development during Nehru's time was the reorganization of state boundaries on linguistic lines in 1956. However, Bombay remained a single state with both Marathi and Gujarati speaking populations and Punjab had both Sikhs and Hindus. Within four years, however, Bombay was split into Gujarat and Maharashtra. Six years later, Punjab was divided into Punjab and Haryana.

A border war was also fought with China in 1962 in the North-East Frontier Agency (NEFA) and Ladakh, which resulted in the loss of Aksai Chin and smaller areas in the NEFA. Following the death of Nehru in 1964, Lal Bahadur Shastri was elected as the Prime Minister of India. During his 19 months in office three issues arose: the first was a food shortage caused by a bad harvest and the growing population; the second was the Hindi crisis of early 1965, stemming from the proclamation of Hindi as the sole national language; and the third came from Pakistan. In 1965, there were clashes with Pakistan over Kashmir.

Indira Gandhi, daughter of Jawaharlal Nehru, won the election in 1966, and she led India to victory in a war against Pakistan in 1971, which culminated in the emergence of Bangladesh as an independent democratic country. She faced serious opposition and unrest in 1975 which she countered by declaring a state of emergency. In the 1977 general election, Indira Gandhi and the Congress Party were defeated by the Janata Party. The new government fell apart in late 1979 and the 1980 election brought Indira Gandhi back to power with a larger majority than ever. In 1984, Mrs. Gandhi was assassinated. Rajiv Gandhi, Indira's son, was soon swept into power with an overwhelming majority and enormous popular support.

Despite his initial lack of interest in politics, Rajiv Gandhi ushered in new and pragmatic policies. Foreign investments and the use of modern technology were encouraged, import restrictions were eased and many new industries were set up. Following the November 1989 elections, Rajiv Gandhi's Congress Party, although the largest single party in Parliament, was unable to form a government in its own right. A new National Front Government, made up of five parties, headed by V.P. Singh, formed the next government. However, the new government did not last long, and fresh elections were announced.

During the election campaign tour of Tamil Nadu, Rajiv Gandhi was assassinated in a bomb blast by a supporter of the Tamil Tigers active in Sri Lanka. P.V. Narasimha Rao assumed the leadership of the Congress Party and led it to victory at the polls. With the new government, the economy was given a new boost in 1992 when the finance minister, Manmohan Singh, introduced many reforms as part of an economic liberalization policy.

Throughout history, even the mightiest of India's ancient civilizations did not encompass all of modern India, and today India is still as much a country of diversity as unity. Yet a national consciousness has developed, and ever since Independence, India has remained the world's largest democracy.

1.3 Geographic Features

Physical Characteristics

India lies between $8^{\circ} 4' 28''$ and $37^{\circ} 17' 53''$ north latitude and $68^{\circ} 7' 53''$ and $97^{\circ} 24' 47''$ east longitude. With an area of 3,287,263 square kilometres, India accounts for 2.4 percent of total world area. India is bounded by China, Nepal and Bhutan in the north; Afghanistan, Pakistan and the Arabian Sea in the west; Sri Lanka and the Indian Ocean in the south; and the Bay of Bengal, Bangladesh and Myanmar (Burma) in the east. India presents contrasting landscapes of mountains, hills, plateaus and plains which are at different stages of evolution. The country can be divided physiographically into regions of the Himalayas, the Great Plains, the Central Highlands, the Peninsular Plateau and the Coastal Plains (Office of the Registrar General and Census Commissioner, 1988).

The Himalayas are the highest mountain system in the world and are the youngest in age, extending over 2,500 km from east to west and from 150 km to 400 km in width. From the foothills, the Himalayas rise rapidly northward to over 8,000 metres, with snow clad peaks which give rise to several perennial rivers. From north to south, the Himalaya region can be divided into three sections: the Great Himalaya, the Lesser Himalaya and the Outer Himalaya (the Siwaliks). The Great Himalaya consists of the highest mountain peaks, which are generally capped with snow. Mount Everest (8,848 m), Kanchenjunga (8,598 m), Nanga Parbat (8,126 m), Nanda Devi (7,817 m), Kamet (7,756 m) and Chomo Lhari (7,314 m) are some of the highest peaks in this section. The Lesser Himalaya mountains, south of the Great Himalaya, have heights of 2,000 to 3,000 metres. The zone of the Siwalik range lies between the Lesser Himalaya in the north and the Great Plains in the south. It extends for more than 2,400 km from the Indus Gorge in the northwest to the river Brahmaputra in the northeast, almost parallel to the Himalayan arc. The height of the mountains rarely exceeds 1,300 metres. Some flat valleys known as Duns are found between the Siwaliks and the Himalayas. These valleys are filled with deep deposits of silt and rocks brought by the swift-flowing rivers from the Himalayas. Dehra Dun is one of the major examples of such Duns.

The Great Plains, one of the most productive and densely populated lowlands in the world, extend from the Ganga delta and the Brahmaputra valley in the east to the semi-arid plains of Rajasthan in the west. These plains occupy an area of 652,000 square kilometres and are filled with alluvium of varying thickness. This vast depression, an arm of the sea that has been filled up with sediment brought down by the Indus, Ganges and Brahmaputra, and their tributaries, is constantly being replenished by silt transported by rivers and spread over the land during floods. The Great Plains are bordered in the north by two narrow belts: (i) a piedmont plain, known in Punjab as *Bhabar*, composed of coarse pebbles mixed with finer and extremely pervious detritus, where the smaller Himalayan rivers disappear underground, and (ii) a marshy tract, *terai*, where the hidden rivers reappear on the surface and cause floods. The Great Plains can further be divided into the Arid Plains of Rajasthan, the Punjab Plain and the Ganga Plain. The arid plains of Rajasthan are drained by the only river in the region, the Luni. There are a number of salt lakes in this region, such as Sambhar, Didwana, Pachpadra, and Lunkaransar Tal. The Punjab Plain, which extends from the west of Yamuna in the southeast to Ravi in the northwest, is buried under alluvium brought by the Satluj, Beas and Ravi rivers. This plain is flat and has an elevation between 200 and 240 metres above sea level. A considerable part of

the Ganga Plain is occupied by the states of Uttar Pradesh, Bihar and West Bengal. The Yamuna forms the western boundary of this plain and joins the Ganga at Allahabad in Uttar Pradesh. To the north of the Ganga, the alluvial tract is subdivided into Rohilkhand in the west and Avadh in the east. Further east in Bihar, the plain is divided into two distinct sections - the north and the south.

The Central Highlands lie between the Great Plains and the Deccan Plateau. About half of Madhya Pradesh, one-third of Rajasthan and a small portion of Uttar Pradesh lie in this zone. It forms a compact block of mountains, hills and plateaus with valleys and basins of major and minor rivers. A major part of this region is forested. To the north of the Narmada Valley extends the Malwa Plateau which is bordered by the Aravalli Hills to the west and northwest. The Aravallis are crossed by several seasonal rivers and streams. Toward the south, the Malwa Plateau is bounded by the Vindhyas.

South of Narmada is the *Peninsular Plateau*, the largest physiographic unit, which faces the Bay of Bengal in the east and Arabian sea in the west. The maximum height of the plateau is 1,000 metres in the south but it hardly exceeds 500 metres in the north. The western Ghats (Sahyadri Hills) stand majestically along the Arabian Sea. The western Ghats are continuous, running north to south, occasionally intercepted by a few gaps or passes, such as Bhorghat, Thalghat and Palghat. There are many rivers which originate from the western slope and many others from the eastern slope. The Eastern Ghats form the eastern boundary of the Deccan tableland. There are a series of hillocks of various heights separated from one another by big gaps usually occupied by rivers from the Western Ghats and Satpuras. The whole tableland is drained by a number of rivers, the most important of which are the Godavari, Bhima, Krishna, Koyna, Tungabhadra, Cauvery, Mahanadi and Damodar.

The Deccan Plateau is surrounded by low lying *Coastal Plains* to the west and the east known as the western and eastern coasts, respectively. The eastern coastal plain may be divided into two sections, upper and lower. The lower section consists of deltas of rivers while the upper section consists mostly of plains lying in the upper reaches of the rivers.

The entire subcontinent is drained by numerous rivers which generally fall into two broad groups: the rivers of Himalayan origin and those flowing in the peninsula. The rivers which originate from the snow clad peaks and mountain ranges of the Himalayas are perennial whereas those originating in the peninsula at relatively lower altitudes are mostly rainfed. The most important river systems and basins in the country are: the Sindhu System, the Ganga System, the Mahanadi System, the Godavari System, the Krishna System, the Cauvery System, the Sabarmati System, the Sahyadri River System, the Pennar-Palar Basin, the Tapi-Purna Basin and the Narmada Basin.

Climate, Rainfall and Seasons

Nowhere else in the world is the monsoon climate so well marked as in the Indian subcontinent, and in no other region of similar size do so many people depend for their prosperity on climatic conditions (Stembridge, 1963). In most parts of India there are three seasons: the cold season (winter) from October to March; the hot season (summer) from April to mid-June; and the rainy season from mid-June to October. However, the country as a whole has no real

winter, and the term 'cold' is a relative one. From October to January temperatures decrease, while air pressures increase from the south to the northwest of India, which is the centre of a high-pressure system. Toward the end of October, the winter monsoon winds start blowing over India from the high-pressure areas over the land toward the areas of low pressure over the sea. Except where they have crossed the sea, they are dry winds. The northeast winds, which gather moisture as they pass over the Bay of Bengal, bring rain to the southeast of India during the winter. Most parts of India receive little rain during the cold season. As the sun moves northward toward the Tropic of Cancer, temperatures rise and pressures diminish. During the hot season, the heat is intense and by the beginning of June it is almost unbearable in the plains. The southwest of India receives some rain in April and May, as does Assam, where it is of great importance for the tea crop; but with these exceptions the rainfall throughout India during the hot season is negligible.

Toward the end of May winds blowing from the south and west cause violent storms, with heavy showers, which are repeated every few days. These storms herald the southwest monsoon - the rain-giver of India - which arrives about the middle of June, when rain descends in torrential downpours accompanied by thunder and lightning. The southwest monsoon owes its origin to the very high summer temperatures over northwest India. Here the heated air rises and winds from the Indian Ocean are drawn in. The rotation of the earth causes these winds to circulate in a counter-clockwise direction, so that the winds come from the southwest over the Western Ghats, from the south in Bengal, and from the southeast in the Ganges Basin. During the monsoon season, heavy rain is experienced all over India except in the northwest. Exceptionally heavy rain is experienced in those areas in which the monsoon winds, blowing directly from the sea, rise suddenly over the mountain ranges, e.g., the Western Ghats, the Himalayas, and the Khasi Hills. The southwest winds, blowing across the Arabian sea, cause heavy rain on the windward slopes of the Western Ghats and the strip of the Malabar Coast at their base, both of which have over 2,000 mm of rain per annum. But the Deccan Plateau, on the leeward side of the Western Ghats, receives only moderate rainfall (about 1,000 mm per annum), while the belt near the eastern foot of the Ghats, lying in the rain shadow of the mountains, has 800 mm or less a year. Southwest monsoon winds blowing across the Bay of Bengal cause extremely heavy rainfall (over 2,000 mm per annum) on the windward slopes of the mountains in Assam and other northeastern states. Cherrapunji, in the Khasi Hills, and nearby areas have the heaviest recorded rainfall in the world, an average of more than 11,000 mm.

Thornthwaite (1933) has divided the country into six microclimatic regions, namely Perhumid, Humid, Subhumid, Dry, Semi-arid and Arid. According to the criteria developed in 1972 by the Irrigation Commission and the Central Water Commission, 122 districts are identified as drought-affected. It is also estimated that an area of about 1.3 million square kilometres is affected by inadequate and erratic rainfall which accelerate drought conditions. These areas cover 41 percent of the total geographical area of the country, directly affecting one-third of the population, especially in 13 major states (Office of the Registrar General and Census Commissioner, 1988).

Western India, covering Rajasthan and the Rann of Kachch in Gujarat, is generally arid. This part of the country experiences a severe deficiency of water throughout the year. Rainfall evaporates as fast as it comes with the result that there is no retention of any moisture in the soil

at any time of the year. The low ground water table results in a relatively scanty vegetation, mostly scrub. Another important area liable to frequent drought lies in the states of Punjab, Haryana, semi-arid Rajasthan, western Uttar Pradesh and Maharashtra, Karnataka, Andhra Pradesh and Tamil Nadu. Subsistence in these areas is based on irrigation. To the immediate east of this semi-arid belt, a large dry area spreads over large parts of Uttar Pradesh, Bihar and some parts of northern Madhya Pradesh, Maharashtra, Andhra Pradesh, Karnataka and the Tamil Nadu coast. Due to the nature of the soil surface, the water-holding capacity is marginally favourable for good cropping. A similar type of climatic region occurs in a narrow belt in the rain-shadow area of Sahyadri.

Sub-humid conditions are experienced over large parts of the country covering the states of Madhya Pradesh, Bihar, West Bengal and Orissa. The major rainfall occurs in the period from June to October due to the southwest monsoon while the winter rains supply moisture for winter crops. Within this belt, some areas in Kalahandi and Phulabani districts in Orissa have a scarcity of water due to the rough topography. The drought in West Bengal is caused mostly by inadequate irrigation and untimely rainfall.

In the humid climatic regions of the country, water deficiency is either negligible or quite small. The perhumid regions lie along the west coast of India, south of Goa and over the northeastern states excluding Arunachal Pradesh and the Brahmaputra valley. This type of climate also prevails over the hilly parts of Himachal Pradesh, Jammu and Kashmir and Uttar Pradesh.

1.4 Area and People

Area and Administrative Divisions

India, a union of states, is a Sovereign Socialist Secular Democratic Republic with a parliamentary system of government. The Republic is governed by the Constitution, which was adopted by the Constituent Assembly on 26 November 1949. The Constitution, which envisages a parliamentary form of government, is federal in structure with unitary features. The President of India is the constitutional head and executive of the Union. Real executive power rests in the Council of Ministers with the Prime Minister as the head. The Council of Ministers is collectively responsible to the House of the People (Lok Sabha). Similarly, in the states, the Governor is head of the executive branch, but principal decision making power lies with the Council of Ministers headed by the Chief Minister. The Council of Ministers of a state is collectively responsible to the state legislative assembly. Union Territories are administered by the President acting through an Administrator appointed by him. There is a strict division between the activities handled by the states and by the national government. The police force, education, agriculture and industry are reserved for the state governments. Certain other areas, including health and family welfare, are jointly administered by the two levels of government.

For administrative purposes, India is divided into 32 units including 25 states, 6 Union Territories, and the National Capital Territory of Delhi, which are further divided into 466 districts. The administrative units below the district level are generally known as *tahsils* in northern states, *taluks* in southern states and sub-divisions/Community Development Blocks/Police Stations in the eastern states and Union Territories.

Geographically, Madhya Pradesh is the biggest state accounting for 13.5 percent of the total area of the country. Other large states, in order of sizes are Rajasthan, Maharashtra, Uttar Pradesh and Andhra Pradesh. The smallest state is Sikkim (which is the only state where the NFHS was not conducted), preceded by Tripura, Nagaland, Manipur and Meghalaya. Uttar Pradesh, which is fourth in land area, stands first in the country in population size accounting for 16 percent of the total population of India. The next largest states in terms of population size are Bihar, Maharashtra, West Bengal, Andhra Pradesh and Madhya Pradesh.

People, Culture, Religion and Language

Many countries are heterogeneous with respect to ethnic origins, languages, religions, geography and traditions, but none can match the vast scale and diversity to be found in India. The country has been called an "ethnological museum"; it is a land with a huge variety of races, religions and languages. Looking at India's cultural scene, one is generally struck by two contradictory features: the existence of diversity and unity at the same time. The endless variety is striking and often incongruous. There are wide variations in modes of dress, speech, physical appearance of the people, customs, standards of living, food, climate, and geographical features. There is no one spoken language or alphabet; more than a dozen languages and scripts appear on Indian currency notes. There is no typical Indian diet or type of dress. It is quite easy to tell the difference between the shorter Bengalis of the east, the taller and lighter-skinned people of the centre and north, the Kashmiris with their distinctly central Asian appearance, the Tibetan people of Ladakh, Sikkim and the north of Himachal Pradesh, and the dark-skinned Tamils of the south. Cultural differences between Indians even in the same state, district or city are as wide as the physical differences between the various parts of the country (Kosambi, 1981). Despite these regional variations, the government has managed to successfully establish an Indian ethos and national consciousness.

Change is inevitably taking place as modern technology reaches further and further into the fabric of society, yet it is often said that village India remains essentially the same as it has for thousands of years. So resilient are its social and religious institutions, that India has either absorbed or rebuffed attempts to radically change them. Even in fast-paced modern cities like Bombay, Madras, Calcutta, Bangalore and Delhi, what appears to be a complete change of attitude and lifestyle is only surface gloss. Underneath, the age-old verities, loyalties and obligations still strongly influence people's lives.

Hindi in the Devanagari script is the official language of the Union. About 225 languages are spoken on the subcontinent, but there are only about 15 major languages. The main languages are either derived from Sanskrit or belong to the Dravidian family. The former include Hindi, widely spoken in north India, Bengali used in West Bengal, Urdu, Punjabi, Marathi and Gujarati. The Dravidian languages (Tamil, Telugu, Kannada and Malayalam) are common in the south of India. English is understood by many educated people.

Religion is inextricably intertwined with every aspect of life in India. There are large numbers of Buddhists, Jains, Muslims, Christians, and Sikhs but the dominant religion of the people is Hinduism. India was the birthplace of two of the world's greatest religions (Hinduism and Buddhism), and of the Jain and Sikh religions. It is also home to one of the world's few remaining communities of Parsis, adherents of the faith of Zoroastrianism. In 1991, there were

about 102 million Muslims in India, making India one of the largest Muslim countries in the world, much larger than any of the Arab Middle East nations. Christians number about 20 million, Sikhs 16 million, Buddhists 6 million, and Jains 3 million (Office of the Registrar General and Census Commissioner, 1995).

Hinduism has a number of holy books, the most important of which are the four *Vedas* (Divine Knowledge) which are the foundations of Hindu philosophy. The *Upanishads* delve into the metaphysical nature of the universe and the soul. The *Mahabharata* (Great War of the Bharatas), an epic poem containing 100,000 stanzas, tells the story of the warrior princes called the Kauravas and the Pandavas, two branches of the royal clan of Kurus who lived in northern India thousands of years ago. No one is quite certain when the epic was composed, but scholars, who give various estimates between 3000 and 1500 B.C., all agree that the *Mahabharata* is one of the oldest literary works known to mankind. The *Bhagavad Gita* is a famous episode of the *Mahabharata* where Krishna related his philosophies to Arjuna. The *Ramayana*, another great epic that is the mark of India's culture, consists of 24,000 verses, divided into seven cantos. It tells in the bardic style of epic lore, the story of Rama, prince and later king of Kosala. For centuries, both the *Ramayana* and the *Mahabharata* have been known throughout the length and breadth of India as an inexhaustible treasure-house of anecdotes, proverbs and sayings that have formed a continuous oral tradition. They have provided a powerful and universally identifiable source for themes in Indian literature, art, drama, dance, and song.

The caste system is one of Indian society's unique characteristic features. Historically, Indian society has been under the grip of the caste system, segregating the population into thousands of non-associating groups parted from each other by traditional barriers, which forbid common social interaction and intermarriage. The origin of the caste system is uncertain but basically it seems to have been developed by the Brahmins or priest class in order to make their own superior position more permanent. Later it was probably extended by the invading Aryans who felt themselves superior to the indigenous pre-Aryan Indians. Eventually the caste system became formalized into four distinct castes, each with distinct rules of conduct and behaviour. At the top are the Brahmins who are the priests and the traditional arbiters of what is right and wrong in matters of religion and caste. Next come the Kshatriyas, who are soldiers and administrators. The Vaisyas are the artisan and commercial class and the Sudras are the farmers and the peasant class. These four castes are said to have come from Brahma's mouth (Brahmins), arms (Kshatriyas), thighs (Vaisyas) and feet (Sudras). Beneath the four major castes is a fifth group, the untouchables. Today the caste system has been considerably weakened but it still has considerable power, particularly among the less educated and in rural areas.

More than 50 million Indians belong to tribal communities which are distinct from Hindu caste society. These *Adivasis*, as they are known in India, have origins which precede the Vedic Aryans and even the Dravidians of the south. For thousands of years they have lived more or less undisturbed in the hills and densely wooded regions which were regarded by others as unattractive areas for habitation. Many still speak tribal languages and follow ancient customs which are foreign to both Hindus and Muslims.

1.5 Economy

Since Independence, India has made enormous strides but faced enormous problems. The mere fact that India has not, like many Third World countries, succumbed to dictatorships, military rule or wholesale foreign invasion is a testament to the basic strength of the country's government and institutions. The British left the Indian economy with deep marks of stagnation. A very large proportion of the national income (around 60 percent) originated in agriculture, and a much smaller proportion (around 15 percent) in mining, manufacturing and the construction sector (Agrawal, 1991). The national government responded to the situation with a concerted and coordinated attack, in the form of Five Year Plans, starting in 1951. While short-term problems were surmounted during the 5-year period of the First Plan, the long-term problem of overcoming lost economic growth continued to be tackled by successive plans. In this process, quite a few advances have been made. The face of the Indian economy as it is today is not only much changed, but it is qualitatively a lot different from that in 1951. The presence of large stocks of foodgrains, a high investment rate, and sizeable foreign reserves are symbolic of these achievements. Despite periodic setbacks, the process of economic liberalization is well underway. There is a considerable (but inadequate) amount of capital stock, which can be of great help in rapidly adding to the productive capacity of the economy. An industrial class is quickly growing, and industries have expanded to the stage where India is one of the world's top 10 industrial powers. India has important heavy industries, such as iron, steel and textiles, as well as a large manufacturing base and a growing reputation for computer software development. All these were nonexistent some 40 years ago.

A paradox of the Indian situation is that despite overall economic growth, a large proportion of the population continues to live a miserable life, often falling far short of even minimum calorie needs. According to the estimates of the Planning Commission, 29.9 percent of the population in 1987-88 (33.4 percent in rural areas and 20.1 percent in urban areas) lived below the poverty line¹. However, the Expert Group² estimated that 39.3 percent of the country's population (39.1 percent in rural areas and 40.1 percent in urban areas) was below the poverty line in 1987-88 (Government of India, 1994). The average per capita income is Rs. 5,529 per annum for 1991-92 (Central Statistical Organization, 1993). The majority of the poor live in rural areas and belong to the categories of landless labourers, small and marginal farmers, fishermen, rural artisans and backward classes and backward tribes. These people have either no assets or assets with very low productivity, few relevant skills and either no regular full-time jobs or very low paid jobs. The Indian economy also suffers from large inequalities.

¹ The Task Force on "Minimum Needs and Effective Consumption Demand" constituted by the Planning Commission in 1979 defined the poverty line as per capita monthly expenditure of Rs. 49.09 in rural areas and Rs. 56.64 in urban areas at 1973-74 prices, corresponding to the per capita daily calorie requirement of 2,400 in rural areas and 2,100 in urban areas. For subsequent years, the poverty line has been adjusted because of price changes, using the price indices which are implicit in the private consumption expenditure series reported in the National Accounts Statistics. The corresponding levels at 1987-88 price levels are Rs. 131.80 in rural areas and Rs. 152.13 in urban areas.

² The Planning Commission constituted an Expert Group in 1989 to consider the methodology and computational aspects of the proportion and number of poor in the country. The Expert Group, while retaining the concept of the poverty line as recommended by the Task Force, suggested a change in the price deflator to update the poverty line in later years.

In rural areas, land continues to be highly inequitably distributed. Small and marginal farmers (with operational holdings of less than 2 hectares) constitute over three-quarters of the landholders, but own only 29 percent of the land. Large farmers (with operational holdings of over 10 hectares) constitute only 2 percent of the landholders, but own more than 20 percent of the land (Agarwal, 1991). In the urban areas, the distribution picture is less fully known, but inequalities are perpetuated by large-scale tax evasion and the generation of "black money". Underemployment and unemployment are another standard feature of urban economic life.

India is rich in natural and human resources. These resources have, however, not been exploited fully and are capable of greater utilization. India's economy is still predominantly agricultural, but since Independence, a concerted effort has been made to diversify the economy.

Agriculture

Agriculture is the largest and most important sector of the Indian economy. Agriculture contributed 51 percent of the country's Gross Domestic Product in 1950-51 but in 1992-93 its contribution was 26 percent (Centre for Monitoring Indian Economy, 1994). Yet agriculture is the source of livelihood for over 70 percent of the population in the country. For some time after Independence, India depended on foreign aid to meet its food needs, but in the last 30 years production has risen steadily, mainly due to the expansion of irrigated land and the increasing use of high-yield seeds, fertilisers and pesticides. India now has large grain stockpiles and is a net exporter of food grains.

The main crops are rice (with an annual yield of 75 million tonnes) and wheat (55 million tonnes), but cash crops such as cotton, tea and coffee dominate the export market. Rice, which occupies one-third of the cultivated area of India, is grown on the lowlands which have abundant supplies of water. Because rice produces large yields per acre, and because two crops of rice can often be produced annually along with one other crop on the same plot of ground, the density of population in the rice-growing districts is very high. Wheat is grown chiefly in the drier districts of the centre and the northwest. Millet is the chief food crop in those parts of India which are not wet enough for the cultivation of rice or fertile enough for the cultivation of wheat. Oil seeds, such as groundnuts and linseed, are widely cultivated on the Deccan Plateau and on the eastern coastal plain. Cotton is cultivated on irrigated land in Punjab and on the so-called "black-cotton soil" of the Deccan. India is the world's largest producer of tea with an annual production of around 700 million kg, of which over 200 million kg is exported. Virtually all Indian tea is grown in Assam, West Bengal, Kerala and Tamil Nadu.

There are three main crop seasons: *Kharif*, *rabi* and summer. Major *kharif* crops are rice, *jawar*, *bajra*, maize, cotton, sugarcane, sesame and groundnuts. Major *rabi* crops are wheat, *jawar*, barley, gram, linseed, rapeseed and mustard. Rice, maize and groundnuts are also grown in summer season.

The average annual per capita food grain production in the country in 1988-91 was 204 kilograms. The compound annual rate of growth of food grain production from 1970-73 to 1988-91 was 2.7 percent (Centre for Monitoring Indian Economy, 1992).

Industry

The progress of industrialization since Independence has been a striking feature of India's economic development. The process of industrialization, launched as a deliberate policy under the Industrial Policy Resolution of 1956 and vigorously implemented under the Five Year Plans, involved heavy investments in building up capacity over a wide spectrum of industries. As a result, industrial production multiplied by about five times over the last 40 years. The industrial structure has been widely diversified covering broadly the entire range of consumer, intermediate and capital goods. The progress India has made in the field of industrialization is clearly reflected in the commodity composition of India's foreign trade in which the share of imports of manufactured goods has steadily declined. On the other hand, industrial products, particularly engineering goods, have become a growing component of India's exports. The rapid strides in industrialization have been accompanied by a corresponding growth in technological and managerial skills for efficient operation of sophisticated industries and also for planning, designing and constructing such industries. India's major industries include iron and steel, cotton textiles, jute, sugar, cement, paper and petrochemicals. Major iron and steel plants are located in Jamshedpur, Rourkela, Bhilai and Durgapur.

India has ample supplies of coal and more than enough iron ore and manganese to supply her growing iron and steel industries. The chief iron mining areas lie along the Bihar-Orissa border, where manganese is also mined. The major coal fields are found in the Damodar Valley of Bihar and West Bengal. Bauxite is mined along the Bihar-Madhya Pradesh border, gold in the Kolar gold mines in Karnataka, and mica in northern Bihar and Tamil Nadu.

Traditional handicrafts, made in the villages, provide employment for large numbers of people. Of these cottage industries, cotton-spinning and weaving are the most important. Silk and wool are also manufactured. Other handicrafts include pottery, leather goods, and metal goods.

In 1990, there were nearly 22 million enterprises employing more than 60 million people. About three-fourths of these enterprises were run entirely by family members without engaging any hired labour. Of the remaining six million establishments, only about a quarter or 1.5 million were industrial enterprises (Centre for Monitoring Indian Economy, 1994).

The public sector has played an important role in Indian industry. Expansion of the public sector was undertaken as an integral part of the Industrial Policy in 1956. Government industrial operations extend from basic capital goods like steel, coal, copper, zinc and other minerals to heavy machinery, drugs and chemicals, fertilisers, and consumer goods such as textiles, hotel services, and watches. The privatization wave that swept the world in the late 1980s has not bypassed India. The Industrial Policy of 1991 limited the role of the public sector to essential infrastructure and defence and opened up more areas to the private sector. To provide a larger scope to the private sector, a number of changes in policy have been introduced with regard to industrial licensing, export-import policy, technology upgradation, fiscal policy, foreign equity capital, removal of controls and restrictions, and rationalization and simplification of fiscal and administrative regulations. A more congenial environment has also been established for foreign capital to seek avenues of direct foreign investment (Datt and Sundharam, 1995).

1.6 Basic Demographic Indicators

Trends in basic demographic indicators for India are presented in Table 1.1. According to the 1991 Census, India's population is 846.3 million, including the projected population of 7.7 million for Jammu and Kashmir, where the 1991 Census was not held. India is the second most populous country in the world, accounting for 16 percent of the world's population.

Table 1.1 Trends in basic demographic indicators			
Trends in basic demographic indicators, India, 1971-91			
Index	1971	1981	1991
Population	548,159,652	683,329,097	846,302,688
Percent population increase (previous decade)	24.8	24.7	23.9
Density (Population/km ²)	177	230 ^a	273 ^a
Percent urban	19.9	23.7	26.1
Sex ratio	930	934	927
Percent 0-14 years old	42.0	39.6 ^b	36.0 ^c
Percent 65+ years old	3.3	3.8 ^b	3.9 ^c
Percent Hindu	82.7	83.1 ^a	82.0 ^d
Percent Muslim	11.2	10.9 ^a	12.1 ^d
Percent Christian	2.6	2.5 ^a	2.3 ^d
Percent Sikh	1.9	2.0 ^a	1.9 ^d
Percent scheduled caste	14.6	15.8 ^a	16.7 ^a
Percent scheduled tribe	6.9	7.8 ^a	8.0 ^a
Percent literate ^e			
Male	45.9	53.5	64.1
Female	22.2	28.5	39.3
Total	34.4	41.4	52.2
Crude birth rate	36.9	33.9	29.2 ^c
Crude death rate	14.9	12.5	10.1 ^c
Exponential growth rate	2.22	2.20	2.14
Total fertility rate	5.2	4.5	3.6 ^c
Infant mortality rate	129	110	79 ^c
Life expectancy			
Male	50.5 ^f	52.5 ^g	57.7 ^h
Female	49.0 ^f	52.1 ^g	58.1 ^h
Couple protection rate	10.4	22.8	43.5 ⁱ

^aExcludes Assam and Jammu and Kashmir
^bExcludes Assam
^c1992, SRS
^dExcludes Jammu and Kashmir
^eBased on the population age 5 and above for 1971 and 1981 and the population age 7 and above for 1991.
^f1970-75
^g1981-85
^h1986-90
ⁱ1992, provisional
Source: Office of the Registrar General (1982, 1985, 1992, 1993a, 1994), Office of the Registrar General and Census Commissioner (1972, 1974, 1976, 1984b, 1987, 1995), Ministry of Health and Family Welfare (1989, 1991, 1992a)

Between 1981 and 1991 the population increased by 23.9 percent. In absolute terms, the population of India increased by 163 million during the same period, which is more than the total population of Japan. The percent increase in population during 1981-91 was slightly lower than the percent increase during 1971-81, which was 24.7 percent. The average annual exponential growth rate also decreased from 2.22 percent during 1961-71 to 2.14 percent during 1981-91.

Population density (per km²) increased from 177 in 1971 to 230 in 1981 and further to 273 in 1991. Nearly three-fourths (74 percent) of the population live in rural areas. In 1991, the sex ratio of the population (number of females per 1,000 males) was 927, which is slightly lower than the sex ratio in 1981. According to the Sample Registration System (SRS) for 1992, 36 percent of the population are children under age 15 and 4 percent are elderly (age 65 and above). The proportion of the population age 0-14 years declined from 42 percent in 1971 to 36 percent in 1992, indicating a decline in fertility during the period.

The religious composition of the population has not changed much during 1971-91, although there has been a slight increase in the proportion Muslim during this period. Persons from scheduled castes and scheduled tribes³ constituted 17 and 8 percent of the population, respectively, in 1991.

According to the 1991 Census, the literacy rate in India for persons age 7 years and above was 52 percent (64 percent for males and 39 percent for females). The literacy rate increased one and a half times from 34 percent in 1971 to 52 percent in 1991, but it is still very low, especially for females. Although the improvement in literacy has been more pronounced for females than males in relative terms, the absolute gap in literacy between males and females remained almost the same during the period 1971-91.

According to estimates derived from the SRS in 1992, India has a crude birth rate of 29.2 per 1,000 population, a crude death rate of 10.1 per 1,000 population, a total fertility rate of 3.6 per woman, and an infant mortality rate of 79 per 1,000 live births. The crude birth rate has declined slowly but steadily, from 36.9 per 1,000 population in 1971 to 29.2 per 1,000 in 1992. The total fertility rate fell from 5.2 to 3.6 children per woman between 1971 and 1992, a decline over 30 percent. The crude death rate also declined, from 14.9 per 1,000 population in 1971 to 10.1 per 1,000 in 1992. The infant mortality rate showed a substantial decline (39 percent) from 129 per 1,000 live births in 1971 to 79 per 1,000 in 1992. Estimates of life expectancy shows that female life expectancy increased by about 9 years from 49 years in 1970-75 to 58 years in 1986-90. The increase in male life expectancy during this period was 7 years. During the last two decades, the sex differential in life expectancy has reversed; females in India now

³ The Government of India has identified certain castes as socially and economically backward and, recognizing the need to protect them from social injustice and all forms of exploitation, the Constitution of India has conferred on them special protection. Scheduled castes refer to such castes, races or tribes or parts of groups within such castes, races or tribes as are declared to be scheduled castes by the President of India by public notification. Scheduled tribes refer to such tribes or tribal communities or parts of or groups within such tribes or tribal communities as are declared to be scheduled tribes by the President of India by public notification (Office of the Registrar General and Census Commissioner, 1984b). A total of 1,090 castes and 573 tribes have been declared as scheduled in 1991 (Office of the Registrar and Census Commissioner, 1992).

live slightly longer than males, the pattern observed in most populations.

The couple protection rate (defined as the percentage of eligible couples effectively protected against pregnancy) is 43.5, based on 1992 estimates prepared by the Department of Family Welfare, Government of India. The percentage of couples effectively protected against pregnancy increased steadily from 10 percent in 1971 to 44 percent in 1992.

1.7 Health and Family Welfare Policies and Programmes

The general health condition of the people of India was very poor before Independence with a crude death rate of 22.4 per 1,000, an infant mortality rate of 162 per 1,000 live births, and an expectation of life at birth around 26 years. Nearly half the total number of deaths were among children under 10 years. India was a reservoir of smallpox and endemic diseases such as leprosy, filariasis, guinea worms and hookworms. Sanitary conditions in both urban and rural areas were very poor. The provision of protected water supplies and drainage, and preventive and curative services was totally inadequate (Government of India, 1946). The health services and programmes were based on the recommendations of several committees convened by the government from time to time. The first such committee, the Health Survey and Development Committee (popularly known as the Bhore Committee), was set up in 1943 and submitted its recommendations in 1946. After Independence, the Health Survey and Planning Committee (the Mudaliar Committee), set up in 1959, worked within the broad framework provided by the Bhore Committee. Subsequently, three other committees were set up to review the various aspects of health care services in India: the Multipurpose Workers Committee (the Kartar Singh Committee) in 1972, the Committee on Health Services and Medical Education (the Srivastava Committee) in 1974, and the Krishnan Committee in 1984.

An important development took place when the country adopted the National Health Policy in June 1981. This development may be viewed as an outcome of the Declaration of Health Issues at the International Conference on Primary Health, jointly sponsored by the World Health Organization and UNICEF at Alma Ata in 1978 (World Health Organization and UNICEF, 1978). Delivery of health services is mainly governed by the National Health Policy, which was approved by Parliament in 1983. Although the National Health Policy places a major emphasis on ensuring primary health care to all by the year 2000, it nevertheless identifies certain areas which need special attention. These areas are: (1) nutrition for all segments of the population, (2) the immunization programme, (3) maternal and child health care, (4) the prevention of food adulteration and maintenance of the quality of drugs, (5) water supply and sanitation, (6) environmental protection, (7) school health programmes, (8) occupational health services, and (9) prevention and control of locally endemic diseases. Active community participation has been considered to be one of the most important supportive activities for the successful implementation of the health programmes.

After India became a signatory to the Alma Ata Declaration of 1978, thereby committing the country to the goal of "Health for All" by 2000 A.D., the government started to concentrate on the development of the rural health infrastructure. This was done to provide health care services to the rural population, which had, by and large, been neglected. Family welfare services, including maternal and child health schemes, are offered through the existing network of Primary Health Centres (PHCs), sub-centres, and referral centres called Community Health

Centres (CHCs), and also through Village Health Guides and Traditional Birth Attendants at the village level. According to the present infrastructure plan, there is one sub-centre for every 5,000 population, one PHC for every 30,000 population and one CHC for every 100,000 to 120,000 population. In tribal and hilly areas, one sub-centre is planned for every 3,000 population and one PHC for every 20,000 population. As of March, 1992, there were 20,719 Primary Health Centres and 131,464 sub-centres, providing health and family welfare services to the rural population (Government of India, 1994). In cities and towns, the health and family welfare services are provided through a network of government or municipal hospitals and dispensaries, and urban family welfare centres. Private hospitals, clinics and dispensaries also play a major role in providing these services in urban areas.

India was the first country to have an official family planning programme, which was initiated in 1952. However, even during the preindependence period, a birth control movement was started by a number of social activists including R.D. Karve, Dr. A.P. Pillai, Lady Cowasji Jehangir, Shakuntala Paranjape and others. A review of the eight development plans adopted since 1951 indicates that family planning as a measure of population control has been given a high priority in each five year plan (Bhende and Kanitkar, 1994). However, greater emphasis was given to family planning only after the Third Five Year Plan. Only Rs. 6.5 million were allocated to family planning in the First Five Year Plan, compared with Rs. 50 million in the Second Plan, and Rs. 250 million in the Third Plan. Planned expenditures increased more than ten-fold during the Fourth Plan (to about Rs. 2,777 million).

Since its inception, the programme has been the responsibility of the Ministry of Health. It is a centrally sponsored and financed programme implemented by the states. The programme began with the creation of a Family Planning Cell in the Planning and Development Section of the Director General of Health Services in 1952. In 1966, a full-fledged Department of Family Planning was established within the Ministry, which was redesignated as the Ministry of Health and Family Planning, and a minister of cabinet rank was placed in charge.

The national family planning programme at first adopted a clinical approach. The extension approach was introduced in 1963. This involved educating the population to bring about changes in the knowledge, attitude and behaviour of the people with regard to family planning. The approach identified several conditions needed for accelerating the adoption of family planning by the people: group acceptance of a small family norm, knowledge about different methods of family planning, and easy availability of family planning supplies and services. However, before giving a fair trial to the extension approach, the integrated approach was adopted in 1966. With this, the family planning programme formed an integral part of maternal and child health and nutrition services. It was expected that the change in policy would find wider acceptance.

The Indian family planning programme emphasized the rhythm method during its initial stages. Diaphragms and contraceptive jelly and later on foam tablets were also promoted as methods of family planning. The intra-uterine contraceptive device (IUD) was introduced into the programme as a method of family planning in 1965. In 1968, the Social Marketing Programme for condoms was introduced, under which condoms or Nirodhs are made available at a highly subsidized price. The camp approach was adopted to promote surgical methods of birth control during the early 1970s. In this same period, a community-oriented service network

was developed, in which family planning services were offered as a part of the overall package of health services. The mother and child care approach, which commenced in 1977-78, is still continuing. A Programme of Social Marketing of Oral Pills was started in 1987. In 1992, the National Child Survival and Safe Motherhood (CSSM) Programme was introduced to implement a package of services combining immunization with mother and child health care interventions (Ministry of Health and Family Welfare, 1992b).

The national family planning programme has had several ups and downs. The biggest setback to the programme was during 1975-77, the period of the National Emergency. There was a sudden increase in the number of sterilizations carried out, from 2.67 million in 1975-76 to 8.26 million in 1976-77. With the change in government in 1977, a new National Population Policy was adopted and the welfare approach to the population issue was reemphasized. The family planning programme was redesignated as the family welfare programme, and the Community Health Volunteer (CHV) Scheme was introduced.

The programme promotes responsible parenthood with a two-child family norm (regardless of the sex of the children), through the voluntary use of contraceptive methods and a variety of maternal and child health schemes (Ministry of Health and Family Welfare, 1991). Messages on the small family norm are conveyed to the masses through motivational and educational means. Imaginative use of mass media and interpersonal communication are used to increase the awareness and remove sociocultural barriers to family planning (Ministry of Health and Family Welfare, 1992a).

The long-term national demographic goal is to achieve replacement-level fertility (Net Reproduction Rate of 1.0) by 2016. As a part of this goal, the country aims to reduce the crude birth rate to 21 per 1,000, the crude death rate to 9 per 1,000, and the infant mortality rate to below 60 per 1,000 live births, and to increase the effective couple protection rate (the percentage of eligible couples effectively protected through any family planning method) to 60 percent. In addition, the recently introduced National Child Survival and Safe Motherhood Programme accelerates the goal for infant mortality and introduces additional health goals. The programme aims to reduce infant mortality from 80 to 75 by 1995 and 50 by 2000, reduce the child mortality rate (at ages 1-4) from 41 to less than 10 by 2000, reduce the maternal mortality rate from 400 to 200 per 100,000 live births by 2000, eliminate tetanus among neonates by 1995, prevent 95 percent of deaths due to measles and reduce measles cases by 90 percent, prevent 70 percent of deaths due to diarrhoea and reduce diarrhoea cases by 25 percent and prevent 40 percent of deaths due to acute respiratory infection by 2000 (Ministry of Health and Family Welfare, 1992b).