Geographically, Nepal is landlocked between two of the largest countries of the world; China and India, which are the third and the seventh largest countries of the world, respectively. Aside from size, the other striking characteristic of Nepal's only two immediate neighbours is their population size. In the world, China tops the list in population while India ranks second. Historically, Nepal has remained a cultural transition zone between the super cultural traditions of Asia: the Chinese Buddhist culture in the north and the Indian Hindu culture in the south. Being exposed to these two most populous countries and their cultural traditions, Nepal's population is not only characterised by Mongolian and Indo-Aryan racial traits and admixture of the two, but also by their cultural traits as well as its own distinct culture and civilization. As the geographical, historical, economic, cultural and political development of Nepal, China and India differ considerably, the population profiles of these countries also differ in the same respect. The main objective of the present paper is to portray the comparative population profiles of these countries and associated problems, on one hand, and to highlight the factors arising from and contributing to the evolution and implementation of population policies on the other as well as prospects for the future.

II

Population Census

Though evidence of some earlier censuses in the form of cadastral surveys are available in ancient Babylonia, China and Egypt which had such enumeration 30 centuries before Christ,¹ no government in China in the past, in absence of a strong central government and political stability had undertaken this very necessary but difficult task of periodically enumerating the entire population until the founding of the People's Republic of China in 1949.² In India, scattered references on population censuses are available since the evolution of Arthashastra, the Principles of Government, by Kautilya during the Maurya period in the Third century B.C.³ However, the periodical enumeration of the entire population of India became possible only after the consolidation of India under the British rule. In Nepal, counting of houses which was practiced by different kingdoms and principalities since the pre-Lichhavi period⁴ seemed to have continued even after the

Anglo-Nepal peace treaty of 1816 and subsequent demarcation of Nepal's boundary with India.⁵

Of the three countries, India was the first to initiate the modern scientific census in 1872, and since 1881 the census not only covered the entire Indian territories but also had been conducted at an interval of 10 years.⁶ Though Nepal conducted its first census in 1911, the modern scientific census started only with the census of 1952/54 and census data were only made available to the public along with the analysis.⁷ China conducted the first nationwide census in 1953 and it was a by-product of the preparation for the national election. The Directives on Election Work at Basic levels issued by the General Election Committee not only contained series of rules and regulations for the preparation of electoral districts and electoral rolls, but also included 'Census and Registration of dElectors'.⁸ In the 1953 census, instead of the census enumerators calling at a home, the head of the household or some responsible member of the family had to call at a registration office and furnish the necessary details to an official or filled up the schedule himself. Though this procedure saved time and personnel, even then two and half million trained census workers from the central and local governments took part in the census. China's second census of 1964 is marked by the non-availability of information regarding census procedures and manpower involvement as well as the detailed data. China conducted the third national census in July 1, 1982, 18 years after the second census. China mobilized more than 6 million census enumerators and supervisors, 130,000 coders, 4,000 data entry operators and over 1,000 computer technicians and administrative personnel. The census was assisted also by different UN agencies and the UNFPA alone allotted U.S. $ 15.6 million for buying 21 computers in addition to supplying international computer experts and census experts.⁹

The 1981 census of India marked its twelfth census as reckoned from the year 1872 and fourth since its independence. The total number of enumerators and supervisors who carried out the 1981 census was about a million and a quarter. The census enumerators mostly consisted of school teachers who were considered to be the best agency and other Central and State government employees of local bodies.¹⁰ The 1981 census of Nepal which was the eighth since 1911 and fourth since the installation of democracy, employed some 15,000 enumerators and supervisors. As the enumerators and supervisors were temporarily hired persons other than school teachers as employed in the Indian census, the responsibility and dedication expected of them was completely lacking and considerably affected the reliability of the 1981 census data. One disturbing fact about the 1981 census is the non-utilisation of the census maps which had been prepared at the cost of some 5 million rupees on grounds that those maps had no practical utility in the field. Maps are most essential in carving out enumeration divisions more precisely

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⁹ Beijing Review, August 9, 1982, p. 18.
and for minimising chances of omission and duplication. There is no doubt that the 1981 census enumeration might have been subjected to chances of omission or duplication. In terms of the ratio of enumerators to population, the number of enumerators in the 1981 census is alarmingly low on an average one enumerator to cover 1,000 population as against 150 in China and 250 in India.

**Population Size and Land Area**

The population of China according to the 1982 census is 1,031,882,511 (including Taiwan, Xiangang or Hongkong, Aomen or Macao, and the servicemen) and is 1,008,233,135 excluding Taiwan, Xiangang and Aomen or Macao, China's population accounts for 22 per cent of the world's total. China's land area which is the third largest in the world after the USSR and Canada accounts for one-fifteenth of the land area of the earth and one-fourth of the land area of Asia.

According to the census of 1981, India's population is 685,184,692 (including the projected population of 19,896,843 for Assam where the census could not be held owing to disturbed conditions prevailing as a result of agitation against the immigrants). India's population is 15 per cent of the world's total. The land area of India is 3.28 million sq. km. or 2.4 per cent of the world's total or just one-third of China.

The census of 1981 in Nepal revealed 15,022,839 persons. As compared to Nepal, the population of China is nearly 69 times larger and that of India nearly 46 times larger. As compared to Nepal's land area of 147,181 sq. km., China's land area is 65 times larger and that of India is 22 times larger.

Nepal faces the most populous States of India, viz. Uttar Pradesh, Bihar and West Bengal which rank first, second and fourth largest States of India respectively in relation to population numbers and these states including Sikkim account for 34.4 per cent of the total population of India or nearly 16 times that of Nepal, while the land area of these States is only 17.2 per cent of the total land area of India and nearly 4 times that of Nepal. On the other hand, the Tibetan Autonomous Region of China which borders the whole length of Nepal to the north is the most sparsely populated of the Provinces and Regions of China. The total population of Tibet is 1,892,393 and it represents 0.18 per cent of the total population of China and is nearly one-eighth of the total population of Nepal. However, the land area of the Tibet Autonomous Region is the second largest in China followed by Xinjiang Uygur Autonomous Region and accounts for more than 12 per cent of the land area of China or more than 8 times that of Nepal.

**Distribution and Density of Population**

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China, India and Nepal being predominantly agricultural countries, the distribution of population is marked by major concentration in those areas where agriculturally most fertile lands are located.

China is a mountainous and rugged country and 59 per cent of river basins and only about 12 per cent of fertile plains. The area of the 22 provinces which lie along and near the sea in eastern China along with the fertile plains consists of 40 per cent of the total land area of the country; but the population of these areas is more than 90 per cent of the total population. Northwest and southwest China, which make up 60 per cent of China's land area, accounts for less than 10 per cent of the Chinese population. The population density of China (1982) averages 107 persons per sq. km. or three times the world average of 34 persons. The density of the coastal areas is 312 persons per sq. km. and that of the western areas in Mongolia, Tibet, Quinghai and Xinjiang average 8 persons per sq. km. At the Provincial level, excluding the municipal provinces, the most densely populated province is Jiangsu with a density of 605 persons per sq. km. which is higher than that of Beijing Municipality with a density of 549 persons per sq. km. (as against 1912 and 687 persons per sq. km. respectively in Shanghai and Tianjin municipalities). The Tibetan Autonomous Region is the most sparsely populated region with a density of less than 2 or 1.6 persons per sq. km. The density of Quinghai, Xinjiang and Mongolia is 5, 8, and 16 persons per sq. km. respectively.

In India, the agriculturally fertile areas, located in the periphery of the Deccan Plateau: the Indus-Ganga-Brahmaputra plains in the north and eastern and the western coastal low-lands are the major areas of population in India. The population density of India is 216 persons per sq. km. which is twice the density of China. Kerala is the most densely populated State of India with a density of 655 persons per sq. km. followed by West Bengal, Bihar and Uttar Pradesh with a density of 615, 402 and 372 persons per sq. km. respectively. If the Union Territories are included, Delhi has the highest density (4,194 persons) Sikkim has the lowest density among the States of India (45 persons) and if the Union Territories are included Arunachal Pradesh bordering China (Tibet) has the lowest density (8 persons).

Owing to the prevalence of malaria in the low lying areas and cold climatic conditions in the high altitudes, majority of the population in Nepal in the past was confined to the intermediate zone between the malarial lowland and cold climatic highlands. Malaria control since the late 1950s resulted in large scale immigration of the population from both the hills and outside the country to the low lying Tarai and the Inner Tarai. The mountainous part of Nepal which accounts for more than four-fifths of the land area of Nepal consists of 56 per cent of Nepal's population, while the Terai which is less than one-fourth of the land area of the country accounts for nearly 44 per cent of Nepal's population.

Nepal's density of population is 102 persons per sq. km. which is slightly less than that of China and less than one-half of India. The density of population in Nepal by ecological

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regions is 28 persons for the Mountain region, 117 persons for the Hill region and 193 for the Terai region. Though the population density is highest in the Tarai, the districts of Uttar Pradesh, Bihar and West Bengal – immediately adjoining the Tarai region – has an average density of 422 persons per sq. km. On the other hand, the average density of mountain districts including Dhading and Gorkha is 31 persons per sq. km. as against 1.6 persons for the Tibetan region of China.

The most striking and common characteristic regarding the distribution and density of population in China, India and Nepal is the concentration of population in agriculturally fertile parts of the respective countries. Only Nepal witnessed the regional redistribution of population as a result of large scale migration of population to the Tarai from the Hills as well as from outside the country. The green revolution in India resulting from irrigation facilities led to large scale seasonal migration of rural population from Bihar and U.P. particularly to Haryana and Punjab. Considering the national integrity and defence of the country to avoid the risk of fermentation of dissatisfaction among the minority peoples in Xinjiang and Tibet by the Soviet Union and India against the Chinese Government, China adopted a deliberate policy of diluting the minority areas with the Han people in sensitive border provinces. The common characteristics of high population density areas in China, India and Nepal are agricultural belts and population problems of these countries are confined to those areas.

**Rural-Urban Distribution**

China, India and Nepal are characterised by low rate of urbanisation. The proportion of urban population is far below the world average of 37 per cent. The overwhelming agricultural economic structure has been responsible for the low rate in urbanisation and overwhelming concentration of population in the rural areas.

Of the three countries China, India and Nepal, India has the highest rate of urbanisation with an urban population constituting 23.3 per cent of the total (in 1981). The criteria for a settlement to be declared an urban area are a minimum population of 5,000, a minimum of 75 per cent of male working population engaged in non-agricultural pursuits and a density of population of at least 400 persons per sq. km. The number of urban agglomeration and towns in India has increased from 2,844 in 1951 to 3,245 in 1981. The containment of overwhelming proportion of population in the rural areas for productive employment is not possible in India, because agriculture has long ceased to be a way of life even for the very small Indian peasant. Despite the still appalling isolation of innumerable villages and rural settlements, particularly in backward regions, and the resulting economic disparity, the urge for all to secure a place in the national or regional market network has grown irresistibly in the last twenty years-escalating unrest. This is, because a town – however small or a semi-rural growth centre or mandi, is the visible

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symbol and instrument of national or regional market network. However, the increase in the number of urban agglomeration between 1971 and 1981 indicates that the urban areas with less than 10,000 population have a discouraging growth. They have contributed 25.35 per cent to the addition in the number of urban agglomeration and the population addition is only 2.09 per cent of the total increase in the urban population.

In China, townships, nationality townships and towns are the lowest administrative units in rural areas under direct jurisdiction of the country or autonomous country. Towns have been termed as seats of local state organs of the country or above, or are centres with a population of at least 2,000 with a fairly large number of people engaged in industry and commerce.\footnote{17} Nominally a city has been defined as a place with a population of more than 100,000.\footnote{18} After the nationwide revision of townships, in 1957, some 110,000 townships and nationality townships, and more than 3,600 towns were recorded.\footnote{19} No recent information is available regarding the townships and towns except for the cities. As compared to 1953, the number of cities in 1979 had increased to 25 only from 166 in 1953 to 191 in 1979. In India the number of cities with a population of 100,000 and more has increased from 74 in 1951 to 216 in 1981, nearly a threefold increase within three decades. In China, as compared to 1953, the number of small cities (population under 300,000) in 1979 had fallen from 131 to 85 with corresponding increase in medium (population between 300,000 to 500,000), large (population between 500,000 to 1,000,000) and extra large cities (population over 1,000,000). The medium cities decreased from 10 to 41, the large cities from 16 to 36 and the extra large cities containing more than one half of the urban population in China from 16 to 36 alone. In 1950 the urban population of China was 11.2 per cent of the total population and this shot up to 19.8 per cent as a result of large scale rural urban migration after 1958 during the "Great Leap Forward", and the reverse pattern of migration as a result of the failure of the Great Leap, led to the decrease of 12 per cent throughout the 1960s and early 1970s. By 1979 the proportion had only gone up to 13.2 per cent.\footnote{20} However, according to the census of 1982, the urban population of China was 20.6 per cent. This sudden increase might be due to the change in the definition of an urban area, or actual increase in the number of small and medium cities.

In Nepal, the census definition of an urban area in 1961 was a settlement with a population of 5,000 and more and accordingly settlements like Thimi, Malangwa, Banepa, Kirtipur and Matihani were termed as urban areas. Since the 1971 census, the census definition only encompassed the administratively declared town panchayats. Population criterion to declare a settlement as a town panchayat was a population of 10,000 and more. However, Ilam, Rajbiraj, Tansen and Bhadrapur were declared as town panchayats despite a population of less than 10,000. During the Second Amendment of the Constitution in 1976, a policy was adopted to declare the Zonal Headquarters and Regional Development Centres as nagar (town) panchayats even if they did not fulfil the

criterion of 10,000 population. Accordingly all development centres and all zonal headquarters with the exception of Dhawalagiri and Karnali have been declared town panchayats.

The urban population according to 1961 was 3.57 per cent of the total population only and went up to 3.61 per cent in 1971 and 6.39 per cent in 1981. According to the 1981 census, there were 23 urban centres and 6 more urban centres have been added since then.

Urbanisation is the indicator of the development of secondary and tertiary activities as against traditional agricultural activities. The high rate of urbanisation in India has been accompanied by a large influx of rural population to large cities and this has exerted a strain on the limited resources thus creating problems of housing, employment, socio-economic amenities and utilities. This has been clearly indicated by a growth of slums in the Metropolitan and large cities. China seems to have made considerable progress in developing small and medium sized cities to intervene with the migration of rural population to large cities. The very low growth of population in municipal provinces like Tienjing, Beijing and Shanghai clearly reveal this fact. Nepal has not only the lowest rate of urbanisation, but is also characterised by considerable disparity in the distribution of urban centres. It has 19 towns located in the Terai and only 10 in the Mountain and Hill regions thus accounting for more than four-fifths of Nepal's land area.

**Sex Composition**

The sex ratio of population in China, India and Nepal are marked by preponderance of males over females. In China the sex ratio of population (females per 1000 males) in 1953 was 930 and had increased to 948 in 1982. India since 1901 had been experiencing the increase in the preponderance of males over females. The sex ratio of India's population went down from 972 in 1901 to 930 in 1971 with a slight increase of 933 in 1981. The excessive masculinity of the Indian population, a significant feature of Indian demography, has led to some controversy. In absence of reliable statistical and other evidences, it cannot be ascribed to any genetic traits in the Indian population. Some maintain it to be a result or underenumeration of females. It is also probable that the culturally and socially conditioned selective female mortality rates at idnfancy (female infanticide in favour of son) and at reproductive age groups (the strain of bearing children too early and too often) account for this. In Nepal also, the trend in sex ratio since 1911 is marked by increasing masculinity as in India. In 1911, the sex ratio was 999 and went down to 986 in 1971 and further went down to 952 in 1981. The declining trend in sex ratio will continue further as a result of declining emigration (which is marked by male selectivity) resulting from disturbances in North-eastern India and the Sino-British accord on the future of Hongkong.

The reasons and processes behind the overwhelming masculinity of population in China, India and Nepal are not clearly understood. But the most important factor seems to be the preference of sons over daughters and therefore the resulting female infanticide.

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21 Beijing Review, March 26, 1984, p. 11.
China has gradually been able to reduce the preponderance of males in the sex ratio and India in 1981 succeeded in averting the trend of increasing male preponderance. Nepal however is facing an increasing preponderance of males in the sex ratio.

Age Composition

The composition of population by broad age groups: 0-14, 15-59, and 60 years and above is marked by a wide variation in China, India and Nepal thus indicating the magnitude of impact of family planning and development of health facilidities as well as general living standards of the population. The low proportion of population in the 0-14 age group comprising 33.6 per cent of the total population in China is the indication of China's success in controlling population through family planning, while the high proportion in the same age group in Nepal comprising 41.4 per cent of the total population is clear indication of Nepal's inability to make a dent in family planning. India's proportion in this group is 39.6 per cent of the total population. The old age group (60 years and above) in China is highest: 7.6 per cent of the total population as against 6.5 and 5.7 per cent of the total population respectively for India and Nepal. Improved medical facilidities in China coupled with improved standards of nutrition might have contributed in increasing the life span of the population and which thereby accounts for the increasing in proportion of the old age group.

The adult age group in China (15-59 years) is 58.5 per cent of the total population and is the highest as against 53.9 per cent of the total population respectively for India and Nepal. Thus China has the largest proportion of productive population as compared to India and Nepal, and as a result of this the proportion of dependent population in China is considerably low with a dependency ratio of 2.6 per cent in 1982 as against 79.4 per cent in 1964. The dependency ratio in India was 85.4 in 1981. In Nepal, the dependency ratio is increasing and had gone up from 85.4 per cent in 1971 to 88.9 per cent in 1981.

The large size of adult population is an asset for China because it provides the multitude of working-age population; but at the same time it also poses problems since it has also the multitude of a reproductive age group or the women of child-bearing age (15-59 years). China will see more than 10 million women reach child-bearing age yearly, and a new baby boom will loom large in the next twelve years. In order to combat this problem, China pledges to limit its population to within 1200 million by the end of the century by advocating one-child-per-couple policy both in the urban and rural areas.

The age composition of the population of India and Nepal with a higher proportion of younger and the aged has a severely burdened on the national economy, while a higher proportion of adult or working age population of China has contributed to the productive aspects of national economy.

Economic Composition

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The large size of the adult population in China is marked by a larger proportion of population engaged in economic activities as compared to India and Nepal. According to the 1982 census 51-94 per cent of China's mainland population are employed. This figure is higher than that of most developed countries like the United States, Japan, Canada, the U.K., France and the Soviet Union.\(^\text{23}\) The employed accounted for 90.92 per cent of the working age population (15 to 59 for men and 15-54 for women according to the Chinese definition of working age population), consist of 96.01 per cent of the total male working age group and 85.10 per cent of the total female working age group.

In India, 33.45 per cent or one-third of the total population is economically active and the percentage of economically active population among the male and the female population of all age groups is 51.62 and 13.99 respectively. The percentage of economically active population among the males and females of all age groups in China is 56.97 and 46.63 respectively. In India, the female participation in economic activity is extremely low when compared to China. The Hindu-Muslim orthodoxy coupled with low level literacy among females has not only suppressed the status of women, but has also affected their participation in economic activities in India.

In Nepal the economically active population accounts for 45.60 per cent of the total population. The participation rate by ecological regions in Nepal varies with a highest rate in the Mountain region (54.45%), followed by the Hill region (48.82%) and the Tarai region (40.32%). The lower participation rate in the Terai is due to the low participation rate among females influenced by prevailing socio-cultural practices to the south of the Nepal-India border. The percentage of economically active population among males and females in Nepal is 58.22 and 33.36 respectively and the female participation rate is similar to the male participation rate in India.

The predominantly rural agricultural economic base of Nepal in particular and China and India in general has been reflected by employment of the overwhelming proportion of population in agriculture. In Nepal 91.15 per cent of the economically active population are engaged in agriculture and related activities thus indicating Nepal's inability to develop non-agricultural sectors so as to absorb a surplus labour force from the rural agricultural economy. The percentage of population engaged in agriculture in India is 65.60 per cent and that in China is 73.72 per cent. The second largest group of population is engaged in manufacturing in India (12.10%) and China (11.84%) while it is the personal and community services (4.58%) in Nepal. The third largest source of employment in India, China and Nepal is trade and commerce and accounts for 7.33, 2.96 and 1.60 per cent respectively. The census data of Nepal on industrial composition of the economically active population is marked by inconsistency in relation to the development the country has made.\(^\text{24}\) As compared to the 1971 data, the data of 1981 on population engaged in manufacturing, construction, and transportation has declined considerably. The population engaged in manufacturing has declined from 51,902 persons in 1971 to 33,029 in 1981 and similarly the population engaged in construction has decreased from

Family planning in Nepal has not been able to make a dent regarding birth control, because sterilised couples have on an average more than 4 children.

5,016 to 2,022 and that in transportation and communication from 9,637 to 7,424 during the same period. Such inconsistencies cast serious doubts on reliability of the Nepalese census data.

China's ability to provide gainful employment to a large section of the working age population of both sexes has had a tangible benefit on production as well as in raising the general standard of living. India and Nepal's inability in providing gainful employment to a large section of the population and the very low participation of females in economic activities has certainly had an adverse impact on production, stress on national economy and deterioration in the living standards of the people.

Literacy

The age group included under literacy differs in China, India and Nepal; starting from 12 years and above in China, 5 years and above in India and 6 years and above in Nepal. In 1957, the Chinese defined the term literate as above 15 years of age who could read 1,500 Chinese characters, out of about 3,000 characters that were in common daily use. A knowledge of 2,000 characters is needed to read a newspaper and 500 characters to write a post card. In 1957 the literacy rate was 37 per cent.25 In the second census of 1964 the age group included under literacy was 13 years and above and the literacy rate was 47.6 per cent. In the 1982 census, literacy included two groups in the age of 12 years and above bracket: (a) Literate and (b) illiterate and semi-literate. Illiterate and semi-literate were those aged 12 years and above who knew fewer than 1,500 Chinese characters and who could not read simple books and newspapers or write simple messages.26 Literacy rate in 1982 was 68.1 per cent with a marked difference between male and female literacy: 80.2 per cent for the males and 54.3 per cent for the females. Similarly urban and rural literacy is also marked by a wide difference: 83.6 per cent in the urban areas and 65.2 per cent in rural areas.27 China has taken a great step forward in education with a 263 per cent increase in the number of literates between 1957 and 1982.

Though the British introduced a modern education system in India, the development in the field of education has been very slow. Literacy for undivided India increased from 5.35 per cent in 1901 to 9.60 per cent in 1931. The literacy rate between males and females was marked by a wide disparity with 15.59 per cent for the males and 2.93 per cent for the females. Since independence, India has made much progress in the field of education to narrow down the disparity between male and female literacy. Literacy in India was 16.67 per cent in 1951 and reached 36.23 per cent in 1981. Male literacy nearly doubled between 1951 and 1981 from 24.95 per cent in 1951 and 1981 from 24.95 per cent in 1951 to 46.89 per cent in 1981, while female literacy trebled from 7.93 per

26 Ibid.
cent in 1951 to 24.82 per cent in 1981. Literacy in urban areas is 57.40 per cent, while in rural areas, it is only 29.65 per cent.

Paradoxically, if there was any regime to restrict universal education in Nepal, it was the Rana regime; but at the same time, it was also responsible for laying the foundation of modern universal education in Nepal. The Rana regime however was reluctant to impart education to the public. For technical education, since Chandra Shamsher' time some of the aristocracy were sent to Japan with the belief that the advantage of modern science should also be used to advantage by Nepal without relying on dangerous people imbued with the Western principles of democracy. In the 1942 census, literacy in Nepal for the age group 5 years and above was only 0.7 per cent. After the installation of democracy in the country, the latent consciousness of the people to educate their children became explicit and resulted with a mushroom growth of schools in different parts of the country. In 1952/54, the literacy rate was 5 per cent and went up to 23.26 per cent in 1981. The urban and the rural literacy rates are marked by a wide variation, 50.48 per cent in the urban areas as against 21.37 per cent in the rural areas. Literacy rates in the urban areas are 61.06 and 38.16 per cent respectively for males and females and the corresponding figures for the rural areas are 31.98 and 10.33 per cent. Because of the extremely low literacy of females, the Seventh Plan of Nepal has envisaged to provide special attention to increase the percentage of female literacy so as to create more employment opportunities for them.

Considering the low female literacy in India, one noted Indian demographer remarks, "The failure on the educational front is colossal and unless the Seventh Five Year Plan makers a frontal attack on illiteracy, family planning will continue to elude us". The raising of the level of education of girls and involvement in the home sciences and vocational studies will not only raise the age of marriage, but will also contribute to family planning both directly and indirectly. Despite a high level of illiteracy, China pledges to eliminate adult illiteracy by 1995, and universalize primary school education by the end of 1990 with the focus for the next decade to educate 80 million young and middle-aged peasants.

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