URBANIZATION AND PUBLIC SERVICES

I. INTRODUCTION

Rapid population growth in cities of the developing world hampers the provision of public services and lowers the quality of urban life. The current population of these cities is approaching one billion people. Within twenty years, almost one billion more people will inhabit urban areas of developing countries. By 2000, more than forty cities in developing countries (DCs) will have a population of five million or more. Mexico City, which had a population of less than three million in 1950, is projected to include more than thirty million people by the end of the century. Although the statistics are disconcerting, certain benefits of urbanization, in such forms as increased employment, efficient use of resources, and many economies of scale, militate against despair. However, the scope of future urbanization problems and the fact that public services are essential and must be administered to a citizenry regardless of its spatial density counsel against inaction.

This Note addresses the intertwined issues of population growth and the provision of public services in major urban areas of the developing world. Initial discussion includes causes of city growth and apparent patterns of urbanization. A survey of governmental efforts to cope with rapid urbanization follows. Against this background, the present difficulties within the urban public service sector appear more poignant. Subsequent discussion reviews problems and governmental responses in the areas of transportation, health services, and education for urban centers, in light of expected increases in demand.

3 WORLD BANK, WORLD DEVELOPMENT REPORT 72 (1979) [hereinafter cited as WORLD DEVELOPMENT REPORT 1979].
4 Id.
5 Beier, Can Third World Cities Cope?, 31 POPULATION BULLETIN 9 (1976).
II. CAUSES OF CITY GROWTH AND APPARENT PATTERNS OF URBANIZATION

A. Causes of City Growth

The fundamental cause of rapid urbanization in DCs is the growth of total population. One quarter of all people who have ever lived are alive today. More than three billion of these people live in DCs and of this amount twenty-eight percent live in urban areas. The percentage and absolute number will grow. Medical advances and a youthful age distribution have introduced a high fertility-low mortality situation, which will result in more births and greater fecundity until the age structure stabilizes at an older age. Currently, the birth rate is thirty-three births per one thousand people per year. The mortality rate is twelve deaths per one thousand people annually. This combination results in a natural increase of 2.1% per year; a rate which, if sustained, would cause a doubling of population in DCs every thirty-three years. Urban population in less developed nations is growing by four percent annually, doubling every seventeen years. Although the birth rate is in decline, the rate of urban population growth will be four times greater than that in developed nations through the year 2000.

In cities of the developing world, the inclination for swift natural increase is exacerbated by migration from rural areas, which not only adds to present total population but also augments the foundation for future natural increase. Throughout the 1970s, approximately 50% of urban population growth was attributable

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* The World population in mid-1979 was estimated to be 4,321,000,000. 1979 World Population Data Sheet, supra note 2.


‡ 1979 World Population Data Sheet, supra note 2.

§ Forty percent of the total population of developing countries is under fifteen years of age. The youthful age structure promotes spending for immediate consumption and impedes savings and investments. U.S. Department of State Bulletin 4 (1978).

¶ Address by Robert S. McNamara to the Massachusetts Institute of Technology (April 28, 1977).

†† 1979 World Population Data Sheet, supra note 2.

†‡ Id.

†§ Id.


to migration from rural areas. To a large extent, migration results from centralized development and industrialization. Increased employment opportunities precipitate an exodus of unemployed from the countryside. Although redistribution of population has contributed to increased production and employment, the large number of migrants in many developing countries has precluded acceptable levels of absorption into the urban economy. Government subordination of farming in favor of non-agricultural projects and persistent rural unemployment due to population growth have intensified migration from the hinterlands. Attraction to the relative amenities of city life has had less impact. Despite the disparity between the number of migrants and the availability of employment in the industrialized sector, many urban immigrants eventually derive some benefit from pronounced differentials in urban and rural incomes, usually by working within service related enterprises. However, the extent of rural poverty in most developing nations renders the benefits bittersweet; the fact that urban workers earn more relative to rural workers does not preclude urban poverty.

17 WORLD BANK, URBANIZATION 10 (1972). Rural to urban migration in DCs between 1980 and 1990 is expected to constitute 42.2% of urban growth. WORLD BANK, POLICIES FOR EFFICIENT AND EQUITABLE GROWTH OF CITIES IN DEVELOPING COUNTRIES 73 (1979) [hereinafter cited as POLICIES FOR EFFICIENT GROWTH].


19 See generally WORLD BANK, GROWTH AND POVERTY IN DEVELOPING COUNTRIES (1978).

20 Harari, Employment Problems, in PLANNING FOR GROWING POPULATIONS 172 (1978). However, a study of migrant employment in Mexico City revealed that only four percent of the migrant population remained unemployed for more than six months after arrival. W. CORNELIUS, POLITICS AND THE MIGRANT POOR IN MEXICO CITY 22 (1975).

21 M. LIPTON, WHY POOR PEOPLE STAY POOR 180 (1977).

22 Rural population in developing countries is growing at about two percent annually. This growth has been accompanied by a general decrease in land under cultivation, further restricting employment. Agricultural employment is the primary source of income for rural people. In Africa and Asia, farming provides up to 85% of employment. WORLD BANK, THE ASSAULT ON WORLD POVERTY 240-43 (1975). However, the percentage of migrants as a proportion of total rural population is small. In the largest developing countries, the rural population is six times the population of urban areas. If the rates of natural increases are the same in rural and urban areas, then a migration of only one-sixth of the rural population would double the population growth rate of cities. WORLD BANK, URBANIZATION 11 (1972). Climate also may have considerable impact on rates of migration. In the Sahel region of Africa, the drought of 1968-1974 fueled migration to cities. WORLD BANK, URBAN GROWTH AND ECONOMIC DEVELOPMENT IN THE SAHEL 6 (1979).

23 In India, for example, the ratio of urban-rural personal income in 1975 was projected to be 1.8:1. Worldwide the urban-rural income disparity improved for DCs between 1973 and 1975 due to poor harvests in developed countries and resultant higher prices for agricultural commodities. This improvement was temporary. LIPTON, supra note 21, at 150-153.

24 In developing countries with a population in excess of one million, approximately 550 million people living in rural areas earn less than $50.00 (1969 U.S.) per year. WORLD BANK, THE ASSAULT ON WORLD POVERTY 20 (1975).
An inequitable allocation of the fruits of economic growth characterizes the urban-rural schism in many DCs. A similar dualism exists in major metropolitan areas. Masses are either unemployed or underemployed and poverty is extensive. In many less developed countries, over 80% of urban households subsist on incomes of fifty dollars or less per month. The creation of a small middle class is facilitated by reliance on capital intensive technologies, which insures a labor surplus. Instead of higher percentages of employment at slightly lower levels of remuneration, as would result from labor intensive means of production, in many cities only an elite segment of the work force prospers, often in government subsidized industries. Such circumstances do not enhance urban tranquility. Under present conditions, migrants aggravate pressures on the labor market and are not seen as resources ripe for development, but rather as liabilities whose presence impedes urban development.

B. Apparent Patterns of Urbanization

Although natural increase in population and rate of migration are prime determinants of urbanization, access to resources, topography, education level of the populace, national economic structure (whether centrally planned or market), and other circumstances also influence urbanization. The extent to which these factors determine population density differs from country to country. Nonetheless, similarities among large human settlements and particular patterns of urbanization are discernible.

One pattern of urbanization is illustrated by countries of Latin America, in which 61% of the 352 million population lives in cities. By 2000, 75% of the population, 450 million people, will be urbanized. In 1900, only ten cities in Latin America had more than 100,000 inhabitants. Today the region is the most urbanized in the developing world. Most of the growth occurs in very large cities, many of which have growth rates in excess of 5% annually. Historically, urban growth in Latin America resulted

26 The securely employed have been denominated a “labor aristocracy,” which represents the phenomenon of “internal colonialism.” Walton, Internal Colonialism: Problems of Definition and Measurement, in 5 LATIN AMERICAN URBAN RESEARCH 41 (W. Cornelius & F. Trueblood eds. 1975).
27 1979 WORLD POPULATION DATA SHEET, supra note 2.
28 WORLD DEVELOPMENT REPORT 1979, supra note 3, at 72.
30 6 LATIN AMERICA URBAN RESEARCH 7 (W. Cornelius & F. Trueblood eds. 1978).
more from migration than from natural increase. This trend will slow considerably throughout the 1980s. As the rate of urban growth rises, rural population will stabilize and urban population increase will result from natural increase. Urbanization in Latin America is characterized by relatively high incomes and expanding employment. Unfortunately, the distribution of income and allocation of economic benefits is highly inequitable in most of Latin America. However, urban inequity in Latin America cannot be analyzed in isolation. The incidence of regional economic disparity, accentuated by “metropolitan primacy” and high government investment in cities, is a complicating factor in the analysis of economic and social development of urban agglomerations in Latin America.

A second pattern of metropolitan growth is underway in nations of Northern Africa, The Republic of Korea, Malaysia, and the Philippines, where most of the population is still rural but shortages of arable land encourage migration to urban areas. At present, growth in such cities as Cairo and Manila occurs at a slower pace than in Latin American cities. Expanding rural populations will fuel migration and by the end of the century the level of urbanization should equal that in Latin America today. Once high levels of urbanization exist, fertility should decline and migration from rural areas subside. Until then, population growth will strain employment and the delivery of public services in cities. In the early 1970s, the unemployment rate in metropolitan Manila was twice the national average and more than 1.5 million people lived in absolute poverty.

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31 CLARKE, supra note 29, at 70. However, between 1970 and 1975, the total urban population increase in Latin America was 31.7 million, of which 20 million was due to natural increase. POPULATION TRENDS AND POLICIES, supra note 14, at 117.
32 Beier, supra note 5, at 9.
33 6 LATIN AMERICA URBAN RESEARCH, supra note 30, at 9.
34 Beier, supra note 5, at 5.
35 Id.
36 Causes of fertility decline are complex. See Freeman, Theories of Fertility Decline: A Reappraisal, 58 SOCIAL FORCES 1 (1979). However, urbanization is a factor. Speaking at MIT in 1977, Robert McNamara said in regard to changes in fertility that “The truth appears to be that a complicated mix of variables is at work, some economic, some not. Mortality decline, urbanization, educational advance, higher aspirations for one’s self and one’s children — all these elements appear to be involved in differing combinations,” McNamara, supra note 10. Indeed, urbanization may accelerate the eventual decrease of population growth. POPULATION TRENDS AND POLICIES, supra note 14, at 116.
37 Beier, supra note 5, at 29.
39 WORLD DEVELOPMENT REPORT 1979, supra note 3, at 75.
Cities in Indonesia and India typify a third pattern of urbanization. The urban and rural populations of both nations will increase rapidly. Within thirty-five years the combined total population of Indonesia and India will be approximately one billion, six hundred and four million people. Urban squalor and lack of public services is extreme. Although countries within this pattern, including Pakistan, are predominately rural (only 21% of India's population is in urban centers), the cities are massive. If trends continue, by 2000 most people will remain in rural areas, despite a shortage of agricultural land. Cities are so undesirable that would-be migrants remain on farms or in smaller villages. However, the potential for migration is considerable.

A final pattern of urbanization is indicated in many nations of sub-Saharan Africa, which are undergoing the initial stages of urban growth. Although city growth is less intense than in other developing regions, sub-Saharan cities, many of which were designed by Europeans, are experiencing disorderly development. Migration is a major factor in urban expansion. Recent industrialization, improved educational facilities, and rural-urban income disparity present the danger of even higher levels of migration, especially in light of the traditionally high degree of population mobility in the region. Fortunately, agricultural land is still available. If migration does not increase drastically, nations of sub-Saharan Africa will be primarily rural at the end of the century. However, high proportions of rural population do not preclude the existence of huge urban centers. Although the rural population of sub-Saharan Africa grew in absolute terms by 24.5 million between 1970 and 1975, almost twice the urban increase, the growth rate for the same period was 2.7% greater in urban centers. Illustrating the significance of these statistics is the projection that by 2000, Lagos, Nigeria and Kinshasa, Zaire each will have more than nine million inhabitants.

40 1979 WORLD POPULATION DATA SHEET, supra note 2.
41 Id.
42 Beier, supra note 5, at 5.
43 WORLD DEVELOPMENT REPORT 1979, supra note 3, at 75.
45 Beier, supra note 5, at 31.
46 Id. at 9.
48 Beier, supra note 5, at 5.
49 POPULATION TRENDS AND POLICIES, supra note 14, at 114.
50 Beier, supra note 5, at 9.
III. GOVERNMENT RESPONSES

As the previous discussion illustrates, urban growth is influenced considerably by national population increase. The inimical consequences of unchecked population growth on per capita income, employment and income distribution, supply of natural resources, and delivery of public services necessitate governmental efforts to control total as well as urban population. In addition to promoting birth control, developing countries should devise urbanization programs to which all levels of government are committed. The strategies should not be conceived in a vacuum or limited to the five year myopia of many development plans. Cross sectoral long term planning is essential. The goals of urbanization strategies should be to utilize national resources fully, to promote regional parity, and to increase domestic consumption, with the overriding purpose of fostering economies of scale and improving the general quality of life. In light of present conditions in DC cities, regardless of the pattern of urbanization, attempts to improve the benefits and availability of urban services must overcome prior deficiencies, as well as keep pace with current growth. Government inaction in the face of these trends will result in deterioration of the level of public services. Unfortunately, aside from laudable and effective family planning services, govern-

81 Until recently, many nations professed openly pronatalist policies and enacted legal sanctions to effectuate them. For example, art. 534, ch. VI of the Indonesian penal code prohibited open display of contraceptives. THE FLETCHER SCHOOL OF LAW AND DIPLOMACY. LEGAL ASPECTS OF FAMILY PLANNING IN INDONESIA 8 (1972). In Brazil, the Service of Medical Control is empowered to restrict importation of contraceptive devices. As of 1974, the Medical Board had refused to permit the import of I.U.D.s. THE FLETCHER SCHOOL OF LAW AND DIPLOMACY. LAW AND POPULATION IN BRAZIL 15 (1975). Religious, cultural, and political perceptions, in addition to legal restrictions, impede efforts to control population growth. In 1960, only three governments sponsored programs to stem population increase. However, by 1971, twenty-six nations representing two-thirds of the developing world's population had official programs to limit population. WORLD BANK, POPULATION PLANNING 17 (1972). Today most nations advance antinatalist policies or are at least receptive to programs which facilitate family planning. Concern over population growth is even reflected in the organic law of certain nations. Art. XV, sec. 10 of the Philippine Constitution provides that "It shall be the responsibility of the State to achieve and maintain population levels most conducive to national welfare." THE FLETCHER SCHOOL OF LAW AND DIPLOMACY. LAW AND POPULATION IN THE PHILIPPINES 5 (1976).

82 WORLD BANK, NATIONAL URBANIZATION POLICIES IN DEVELOPING COUNTRIES 114-119 (1979).

83 In the Philippines, the birth rate declined from 43.2 in 1970 to 34 in mid-1979. 1979 WORLD POPULATION DATA SHEET, supra note 2. Active participation of national and local governments in the dispensation of contraceptives in combination with laws that limited maternity benefits to families of less than four children contributed to the reduction in the Philippines. Also of importance in the decline were laws that improved the status of women generally and employed women in particular. M. STAMPER, POPULATION AND PLANNING IN DEVELOPING COUNTRIES 175-78 (1977).
ment efforts to cope with urbanization have not been too successful. However, these failures do not set precedents. In the early 1600s, Queen Elizabeth I prevailed upon Parliament to enact legislation designed to limit growth in London by the establishment of a green belt, beyond which expansion was impermissible. Today that green belt is Hyde Park.\footnote{Davis, \textit{Strategies for Rapid Growth}, in \textit{Improving Human Settlements: Up with People} 88 (H. Oberlander ed. 1976).}

Government responses to the feverish pace of city growth have ranged from the creative to the unsavory.\footnote{Legislation enacted in Maharashtra State in India in August 1976 made sterilization compulsory for couples with three or more children. The legislation has been repealed. Gwatkin, \textit{Political Will and Family Planning: The Implications of India's Emergency Experience}, \textit{5 Population and Development Review} 29 (1979).} An example of the former is the creation of growth poles in frontier regions, such as Humboldt City in Brazil.\footnote{As a result of suggestions made at the 1972 UNESCO Conference on the environment, the federal government of Brazil designated a large area north of the Mato Grosso as an experimental region to initiate rapid economic development in the Amazon region. \textit{Brazilian Embassy, London, Brazil: Challenge and Progress} 37 (1975).} The latter is exemplified by the imposition of "closed-city" regulations in Jakarta, the enforcement of which resulted in a nighttime eviction of 13,000 people who had violated registration requirements.\footnote{The program, which required proof of employment and possession of registration papers for Jakarta residents, caused a rise in petty corruption and has been unsuccessful. Simmons, \textit{Slowing Metropolitan City Growth in Asia: Policies, Programs, and Results}, \textit{5 Population and Development Review} 91 (1979).} Other responses include that of the government of Malaysia, which sought to encourage industrialization outside the Kuala Lumpur region by permitting companies that locate in depressed areas to be exempt from certain taxes for up to ten years.\footnote{\textit{Id.} Industries engaged in production for export are not included in the prohibition.} The Philippines prohibited construction of new industrial plants within a fifty kilometer radius of Manila.\footnote{Preston, \textit{Urban Growth in Developing Countries: A Reappraisal}, \textit{5 Population and Development Review} 210 (1979).}

Because the growth of large cities has facilitated economic development in DCs, the issue of optimum city size looms large in any urban strategy. Although policy makers in developing countries generally believe that urban growth rates are inordinate and accentuate regional disparity,\footnote{\textit{Id.} Industries engaged in production for export are not included in the prohibition.} it is important to recognize that levels of population density and primacy differ. The best tactic may not always be to slow city growth.\footnote{\textit{WORLD DEVELOPMENT REPORT} 1979, \textit{supra} note 3, at 75.} In areas of less density,
such as sub-Saharan Africa, urban centers are relatively productive and efforts aimed at economic decentralization would be counterproductive and untimely. Of greater importance in these regions is the implementation of effective birth control, development of agricultural areas, and abandonment of inequitable trade arrangements between urban and rural areas, thereby lessening a major impetus of migration to large cities. The key element in a plan to limit migration from rural areas or to relieve density in existing urban centers is an appreciation of the complementary nature of urban and rural development. Recent national planning has embraced such an awareness.

A. India

During a government sponsored seminar on urbanization in India in 1975, the Minister of State for Housing said that "rural and urban development will have to go hand in hand. Programs of agricultural modernization must continue, for rural areas will have to continue to offer increased employment to the growing population." The result of the seminar was the National Urbanization Policy Resolution of 1975, which is a recent attempt in a series of plans to ameliorate urban squalor. India's urban population now exceeds 138 million and by 2000 more than twenty cities will have populations in excess of one million.

Since 1960, planners have suggested various strategies to improve urban life in India. Among past proposals were calls for the promulgation of locational incentives for industrial development away from large cities; the reduction of dependence on agriculture for employment in rural areas; expansion of municipal jurisdictions to coincide with the creation of larger planning areas for metropolitan regions; and tightened control of land values in cities to lower costs of improvement and enlargement of public service capabilities. India has a long tradition of planning for new towns and industrial estates in undeveloped rural regions. Poor

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63 Id.
64 Opportunities to discourage migration are greatest in sub-Saharan Africa. Less time is available to implement effective policies to curb migration in most of Latin America, due to the decreasing incidence of migration. Beier, supra note 5, at 10.
65 P. Misra, 1 Habitat Asia 160 (1979).
66 1979 World Population Data Sheet, supra note 2.
implementation, however, has impeded integration of the new settlements into the regions they were designed to improve.\(^9\) (Recent state legislation requires such towns to cooperate more fully in regional affairs.\(^7\)) Despite two decades of planning, the condition of Indian cities has scarcely improved. In Calcutta, the population density is 44,000 people per square kilometer\(^7\) and over 79% of the families live in one room.\(^7\) Neighborhood slums, called \textit{bustees}, extend far into Calcutta’s suburbs, rendering the entire metropolitan region a dense conglomeration of modern facilities and squalid hovels. The entrenched infrastructure of large cities, including Calcutta, continues to attract new industries, notwithstanding announced government policy to the contrary.\(^7\) In addition to reiterating past proposals, the National Urbanization Policy Resolution of 1975 advances an important suggestion, which should enhance urban services. Many DCs, overly influenced by Western opulence but afflicted with resource and institutional constraints, initially set high standards for government services. Costs precluded wide access and polarized living standards. India now advocates a “minimum level of service”\(^7\) program to benefit as many citizens as possible. The program includes provisions for elementary education, public health facilities, homesites for landless laborers, and a safe and adequate urban water supply.\(^7\)

Due to India’s federal structure, the success of the National Plan depends largely upon the ability of states to implement the proposals, a matter of no small concern in light of severe financial problems confronting the states.\(^7\) Monetary and resource difficulties aside, India’s urban planning is much maligned. Despite recent enlightenment, programs for urban development often are considered as an aspect of social and welfare planning rather than as a necessary component of national development.\(^7\) One writer suggests that planning in India is intellectually impoverished and that policies “either get bogged down on details or [become] mere wishful thinking.”\(^7\) Action was taken during the “emergency” of

\(^{69}\) The Objectives of Urban Planning, 3 The Urban Edge 5 (1979).
\(^{70}\) Id. at 6.
\(^{71}\) Urban Development Projects, 2 The Urban Edge 6 (1978).
\(^{73}\) Bhattacharaya, supra note 68, at 116.
\(^{74}\) Jain, Evolution of an Urban Growth Policy for India, 41 Ekistics 105 (1976).
\(^{75}\) Id.
\(^{76}\) Bhattacharaya, supra note 68, at 116.
\(^{77}\) Jain, supra note 74, at 103.
\(^{78}\) MISRA, supra note 65, at 166.
1975-1976, before the hiatus in Prime Minister Gandhi's government, which included the appropriation of urban land, provision of minimum wages for farm workers, and aesthetic and sanitation improvements in large cities. Although city planners in India recognize the problems of urbanization and articulate progressive policies to deal with them, implementation leaves much to be desired. In other DCs, urbanization strategies have afforded varying degrees of success.

B. Korea

Government efforts to cope with urbanization in the Republic of Korea have been among the most successful in the developing world. Holistic strategies encompassing rural, urban, and industrial perspectives facilitate realization of national goals. The major objectives of the government are to slow city growth in Seoul (in part due to national security concerns engendered by the city's proximity to the 38th parallel) and Pusan and to divert population and industrial growth to intermediate size cities.

To discourage population and industrial concentration in Seoul, the population of which will increase by almost 11.5 million to 18.7 million by 2000, the government enacted the National Land Development Law in October of 1971. The major provisions of the legislation are as follows:

1. Prohibition of further construction of industries, schools, and stores within a ten kilometer radius of Seoul;
2. Permission for industrial location in the Seoul region is limited to non-polluting urban oriented industries;
3. Construction of ten satellite cities within 30 kilometers of Seoul;
4. Stimulation of industrial location in satellite cities by incentives, such as tax exemptions; and,
5. Improvement of transportation facilities between Seoul and the satellite cities.

In 1972, the government zoned the nation into six regions by passage of a National Land Utilization Control Act which pro-
vides for strict regulation of industrial and urban development. The six regions are (1) urbanized, (2) industrial, (3) mountain and forest, (4) agricultural, (5) natural and cultural preservation and (6) reserve. The Act forbids expansion of manufacturing plants in non-industrial zones and prohibits construction of businesses, apartments, and government offices in northern areas of Seoul, where congestion is a serious problem. Relocation of industries from urban areas also is encouraged by legislation that gives preference in choice of industrial land to firms that comply with government policy. On occasion, enterprises that refused to relocate have been suspended from water and electricity service. In March of 1973, a resident tax was adopted in an effort to divert migration to smaller cities, which had progressively smaller taxes depending upon their population. The government also advocates dispersal of administrative agencies to rural areas.

A nation's transportation system obviously affects migration and urbanization patterns. A developed transportation network, with corridors to the countryside, facilitates migration to cities, but also encourages the location of industries in smaller regional urban centers, thereby diminishing the motivation to migrate to large cities for employment. In recognition of this tendency, Korea has sought to improve regional transportation networks. The "one day travel zone" policy, designed more than fifteen years ago, seeks to insure rapid access to all regions. Modern transport facilities, such as the Seoul-Pusan expressway, improve inter-regional trade and discourage industrial and population concentration in one area of the country.

Although government measures have produced tangible results (the annual growth rate of Seoul's satellite cities, for example, is almost three times that in Seoul), setbacks, such as a disinclination for industrial relocation and persistent though moderate regional inequality, require future ministration. Another area that requires attention is the quantity and quality of urban services, a sector largely neglected during Korea's postwar

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86 Id.
87 Id.
87 Id.
88 Ro, supra note 83, at 60.
89 Id.
90 World Bank, National Urbanization Policies in Developing Countries 74 (1979).
91 Id. at 76.
92 Simmons, supra note 57, at 100.
93 Ro, supra note 83, at 63.
94 World Bank, National Urbanization Policies in Developing Countries 149 (1979).
industrialization. Because poverty is not as severe in Korean cities as in other DCs, urban services should be set at relatively higher standards. All but the poorest neighborhoods should have running water and sewerage facilities, electricity, and paved roads. Most of the urban poor could pay for improved public services if they were available. Undeniably, the success of South Korea’s urban strategy is attributable to a set of unique factors, in addition to good planning. Besides a healthy economy and a homogenous population, the nation is small in size and, until recently, has had a stable authoritarian government. Nonetheless, Korea’s urban strategies are worthy of study in any nation that desires industrial and population deconcentration.

C. Mexico

Mexico, which will be eighty percent urbanized by 2000, has been active in the area of national urban planning. Currently, Mexico has more than twenty federal agencies whose primary functions are urban planning and industrial deconcentration. However, the fact that Mexico City is many times larger than the next largest city, Guadalajara, indicates past shortcomings. Discouraging results have been due in part to contradictory and uncoordinated planning among federal, state, and local governments. For example, the Industrial Parks and Cities Program, the purpose of which was to deter growth in Mexico City, has actually enhanced the city’s expansion. Although the Industrial Parks and Cities Program fostered the construction of fourteen industrial centers in eight states between 1960 and 1969, one of the largest of the industrial centers, the Parque Industrial Cartegena, is located within the urban area of Mexico City. The rationale for its unfortunate location, as well as for the granting of other industrial permits in Mexico City, is that economic growth will ease unemployment problems in the city. Although it is true that in the short term employment may increase, the apparent failure to

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95 Beier, supra note 5, at 30.
96 Id.
97 Simmons, supra note 57, at 100.
98 MINISTRY FOR HUMAN SETTLEMENTS AND PUBLIC WORKS OF MEXICO, DESARROLLO URBANO MEXICO 1 (1979) [hereinafter cited as DESARROLLO URBANO MEXICO].
100 Id. at 74.
101 Id.
102 Id. at 82.
appreciate the symbiotic relationship between industrialization and urbanization contributes to Mexico City's primacy and to disparities in regional development. However, recent legal changes in Mexico and a pronounced policy to formulate harmonious strategies among the various levels of government may promote more efficient and equitable development of urban areas throughout the country.

Legal changes in areas of urban concern include amendments to articles of the Mexican Constitution, the enactment of a General Law on Human Settlements, and the approval of a National Urban Development Plan. The amendments, enacted in February 1976, are designed to improve urban conditions by seeking to “establish the concurrent participation of the three levels of government through new means of collaboration among the federal entities themselves and between these entities and the Federation...”

Specifically, article 27 of the Constitution now authorizes the national government to plan and to regulate the establishment of population centers. Article 73 was amended to empower the Congress of Mexico to enact laws relating to problems of urban areas. In addition, article 115 now permits states to enact laws concerning cities because many problems of urban development are within their legislative competence. Section V of article 115 also provides that

when two or more urban centers located in municipal territories of two or more federative entities form or tend to form a geographic continuity, the Federation, the federative entities, and the respective municipalities, each within its own jurisdiction, shall plan and regulate the development of such centers, jointly and in a coordinated manner...

The General Law on Human Settlements, passed in May 1976 and composed of forty-seven articles, provides guidelines for a comprehensive settlement policy. The Law stresses the need for a balanced distribution of population centers and advocates the growth of medium-sized cities, decentralization of large urban centers, equitable allotment of public wealth among regions, and improvement of transportation facilities between industrial sites

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103 DESARROLLO URBANO MEXICO, supra note 98, at 110.
104 Id.
105 Id. at 111.
106 Id.
107 Id. at 207.
and workers' residences. The Law clarifies and delineates the functions of national, state, and municipal governments and provides for the creation of courts and administrative agencies to enforce government mandates in the sphere of urban development. Article 4 of the General Law provides the schematic means through which Mexico's urban goals are to be achieved and states that:

The planning and control of human settlements will be carried out through:

I. The National Plan for Urban Development;

II. The State Plans for Urban Development, which will operate within the internal sphere of States and be controlled by the laws issued by state governments for this purpose; (and)

III. The Municipal Plans for Urban Development, which will be drafted by local legislative bodies. . . .

The duties of the federal government are included in article 14 of the General Law, which contains obligations to compile a National Plan for Urban Development and insure its implementation, to continue scientific research in the realm of urban development, to provide state and municipal authorities with technical assistance in urban matters, and to inspect federal urban projects on a periodic basis. The duties of state governments, enumerated in article 16, include a mandate to issue laws to coordinate state and municipal urban plans with the National Plan for Urban Development, to issue decrees to establish population centers, and to cooperate with city governments to foster realization of the goals of city authorities. Article 17 provides that city authorities are to implement their own urban strategies in such a manner as to improve and control the growth of population centers and otherwise to support the plans of the state and national governments. Mexican authorities believe that public participation is indispensable, especially at the local level, to enhance the social, political, and economic advancement of urban centers.

108 Id. at 208.
109 Id. at 210.
110 Id.
111 Id.
112 Id. at 211.
113 Id.
114 Id. at 212.
Accordingly, the General Law encourages the use of broadcast and print media, as well as educational programs, to inform and involve the public in urban development plans. Currently, advisory councils composed of community representatives assist in major decisions of city concern.

Upon approval of the National Urban Development Plan on May 12, 1978, President Lopez Portillo stated that "For the first time in the history of our country we are going to make a rational and organized joint effort... to direct the haphazard results of freedom of movement and settlement. . . ." The Plan is comprehensive, operating both on national and regional problems as well as on difficulties singular to specific cities. Generally, the Plan seeks to distribute population and economic activity throughout the nation, to balance development among existing population centers, and to improve policies regarding land use, housing, and public services in urban areas. In recognition of the growing population, the Plan incorporates the National Family Planning Plan, which seeks to lower the annual birth rate from 3.2 percent in 1976 to 2.5 percent in 1982, with the overall goal of reducing the birth rate to one percent by 2000. To encourage decongestion of this reduced population, the Plan promotes a National Program for Territorial Decentralization of the Federal Public Administration, and a Program of Incentives for the Territorial Decentralization of Industrial Activities. The former plan, adopted on January 11, 1978, advocates decentralization of administrative agencies from Mexico City to less densely populated cities. In addition to strengthening the public sector of long neglected regions and thereby bolstering the federal structure, the plan also should decrease migration to Mexico City. The program for the decentralization of industry, put into operation on February 2, 1979, also seeks to curb migration to Mexico City by the disbursement of resources to smaller cities to foster industrial growth and to increase employment levels.

115 Id. at 182.
116 Id. at 133.
117 Id. at 145.
118 Id. at 135.
119 Id. In 1972, President Echeverria, in an effort to encourage industrial decentralization, issued a decree which divided the country into three zones. The first zone consisted of the cities of Mexico City, Monterrey and Guadalajara. The second zone consisted of smaller cities such as Cuernavaca and Puebla. The third zone was composed of the remaining 97% of land area in the country. The decree sought to encourage industrialization in the third zone by giving tax exemptions to industries so locating. Majority foreign-owned industries could not take part in the incentive scheme. U.S. DEPARTMENT OF COMMERCE, OVERSEAS BUSINESS REPORTS, INVESTING IN MEXICO, at 6 (May 1979).
Although the National Urban Development Plan and other measures previously discussed have been in effect for too brief a period of time to assess their efficacy, the scope of the plans and the apparent dedication of the government to improve the quality of life in urban centers are praiseworthy. If the plans seem grandiose, it should be noted that tremendous projects require an ambitious attitude from their inception. With long-term planning and wise administration, the government, aided by monies derived from anticipated oil revenues, may be compelled to relinquish its status as a less developed nation by the end of the century. However, without implementation, the plans are little more than well-intentioned rhetoric.

IV. POPULATION GROWTH AND PUBLIC SERVICES

As has been seen, government efforts to cope with rapid urbanization vary in emphasis, dedication, and likelihood of success. India’s urban policies, although not devoid of merit, are hardly progressive in effect. Korea’s strategies have had more favorable results, facilitated, however, by variables not common to many developing nations. Mexico’s programs are untested. However, even if the national urbanization policies of developing nations were effected to an optimum level, the task of providing acceptable living standards for city dwellers would remain enormous. Even if, for example, the Mexican government succeeded in limiting its capital city’s population to 20 million by the year 2000, as is its objective, the difficulties involved in providing adequate transportation, health, and educational facilities for the megalopolis would be considerable. The unhappy probability is that national urban strategies will be less than totally successful. The remainder of this Note considers problems of transportation, health, and education for large urban areas of the developing world. The distinction contained herein among these three areas of public service is somewhat academic. Certainly, intra-sectoral ramifications of decisions and programs within the public service realm necessitate an abandonment of parochial viewpoints on the part of planners and administrators.

A. Transportation

Transportation facilities may be considered as the bloodlines of urban centers. Efficient movement of goods and people is the sine

120 DESARROLLO URBANO MEXICO, supra note 98, at 145.
qua non of economic growth. With the population and geographic expansion of cities in the developing world, improved transportation is a requisite for the mere retention of the status quo, a state of affairs which in itself is particularly alarming. If the analogy, asserted in much urban-oriented literature, of a city as a living organism is germane, a reasonable diagnosis of transportation in developing country cities would be one of acute arterial sclerosis. Indeed, congestion levels result in average road speeds of between 7 and 10 miles per hour in central city areas of many urban centers.121 Although the prognosis is not sanguine, neither is it hopeless. In spite of severe resource constraints, developing cities have opportunities to implement efficient transport systems, which most developed country cities could recapture only at prohibitive costs. This discussion centers upon alternative and varied modes of transportation that may be available to developing country cities as well as upon the influence of population growth on transportation networks and on urban forms. It is of critical importance that the urban public transport system be conceived of as a whole rather than as a hodgepodge of means to move from locale to locale.

The emphasis accorded transportation by government planners is reflected in the expenditures devoted to transport projects. In Bombay, 26% of the city budget is assigned to maintaining and improving transportation.122 In Calcutta, where during any given twenty-four hour period 4.5 million people crowd into a public transport system designed to accommodate 1.5 million people,123 the percentage of the urban budget allocated to transportation is almost twice that in Bombay, despite lower per capita income levels.124 In Bogota, the transport expenditure is 32% of municipal resources.125 Obviously, such high outlays are made at the expense of programs to improve housing, education, health, and the provision of social services. Unfortunately, rather than address problems of public transport, government officials too often only inquire as to where to build the next road.

The increasing costs of highway construction and the diseconomies of private automobile ownership in terms of spatial limitations, fuel usage, and initial foreign exchange requirements,

121 WORLD BANK, URBAN TRANSPORT 16 (1975).
122 Id. at 22.
123 Sivaramakrishan, Problems of the Metropolitan City in Developing Countries, in IMPROVING HUMAN SETTLEMENTS: UP WITH PEOPLE 106 (H. Oberlander ed. 1976).
124 WORLD DEVELOPMENT REPORT 1979, supra note 3, at 79.
125 Davies, supra note 54, at 89.
necessitate exploration of alternative modes of transportation. This is not to suggest that road construction per se be restricted severely but rather that proposals for such construction be scrutinized strictly and not approved primarily at the behest of the minority who own automobiles. Variations in transport modalities which, depending upon a city's particular situation, governments should encourage include pedestrian travel; bicycle transportation; traditional means of transport such as animal-drawn carts, pedicabs, and rickshas; buses; conventional rail systems; and, possibly, rapid-rail systems. Finally, policies designed to lessen congestion, focused principally upon private car owners, should be instituted.

The benefits of pedestrian travel are considerable. Construction costs of footpaths are low, spatial requirements are favorable, and maintenance expenditures are negligible. Walkways can accommodate more travelers per foot of width per hour than most transport modes. Although speeds are low and weather conditions not always pleasant, the total of miles traveled in an hour is greater per foot of width than is attainable by automobiles in downtown traffic. In many large cities, walking or walking and cycling accounts for up to 40% of daily work trips. Safer pathways, better enforcement of traffic regulations to protect pedestrians, and an effort to maintain or introduce a close proximity of residences to employment centers should render walking an even more attractive method of travel and further its incidence.

Bicycle transportation is another mode of travel which, like walking, is energy efficient and conducive to reducing public expenditures for transport infrastructure. Cycle paths are inexpensive and can realize a flow of persons per foot width higher than automobiles and approximately the same as buses in city traffic. Operating expenses are also very low both for the user and the government. The total cost per person per mile on a four foot wide bicycle path is less than one-half of one cent U.S.

\begin{thebibliography}{9}
\bibitem{126} \textit{World Bank, Urban Transport} 73 (1975).
\bibitem{127} \textit{Id.}
\bibitem{128} \textit{Herbert, supra note 25, at 140.}
\bibitem{129} Fatality rates for motor vehicle related accidents are high in many developing cities. In DCs, automobile death rates are up to 30 times greater than in the United States. In the United States, the rate is approximately 1.6 deaths per 10,000 vehicles annually. In Bombay, a recent study indicated a rate of 53 deaths per 10,000 vehicles. \textit{Urban Transit, 2 The Urban Edge} I (1978).
\bibitem{130} \textit{World Bank, Urban Transport} 76 (1975).
\bibitem{131} \textit{Id.} at 74.
\end{thebibliography}
production and repair of bicycles is largely labor intensive. Despite these advantages, facilities for bicycling and walking often are neglected. To encourage bicycle use governments should consider lowering import fees and sales taxes on bikes, improving hard surfaced paths, and providing convenient parking racks with police supervision. A major disadvantage of bicycle travel is the danger associated with its use in heavy mixed traffic. This problem could be alleviated by the provision of paths and rights of way for slower moving vehicles, including those of traditional use.

Traditional transportation modes also have a place in transport planning for large urban centers. Animal-drawn carts and rickshas, although not possessed of the finer attributes of modernity, offer distinct advantages to financially pressed cities. In addition to low capital and operating costs, traditional modes of travel are easily adaptable to route changes, are more capable of traversing poorer road surfaces than heavier vehicles, are able to penetrate narrow alleys and roadways common to high density neighborhoods, and provide transportation to more remote areas of cities. Thus, they enhance accessibility and land supply for poorer people. Nonmechanized modes also provide fuel advantages and do not contribute to pollution problems common to many urban areas. A major drawback of traditional types of transit is that they often disrupt the flow of faster moving vehicles. However, as is the case with bicycles, this difficulty may be corrected by delineation of fast and slow lanes. Yet, rather than provide such differentiation, many cities have outlawed traditional means of transport. For example, pedicabs (three-wheeled human-powered vehicles) were banned in Bangkok in 1961 and in Jakarta in 1972 because they were considered undignified. In light of advantages inherent in the use of nonmechanized vehicles, not the least of which is employment for operators, city planners should relax prohibitions and stress coordination of traditional modes with more modern mass transport facilities.

132 Herbert, supra note 25, at 142.
133 Id. at 143.
135 Although initial expenditures for two new lanes may be considerable, the improvement in congestion and lower total costs per person on four lane roads should prompt the investment. World Bank, Urban Transport 74 (1975).
136 Urban Transit, 2 The Urban Edge 4 (1978).
Buses are and will remain a major source of transportation for heavily populated areas. Despite costly initial investment, minimal road space requirements per passenger and low cost per passenger mile (less than two cents U.S.\textsuperscript{137}) make busing spatially attractive and affordable by all but the most impoverished. However, bus systems generally are administered and maintained poorly. The bus service in Mexico City has been described as "deficient, burdensome, dangerous, and degrading" and it has been alleged that half of the buses are "no better than scrap."\textsuperscript{138} Oftentimes only two-thirds of the buses in developing country cities are operational at the beginning of the day, half of which develop mechanical difficulties during the day.\textsuperscript{139} To keep the buses running and to improve service, transportation planners should expand bus fleets, improve management including maintenance, routing, and scheduling, and support affordable fares.\textsuperscript{140} Designation of exclusive bus lanes would help alleviate congestion.

In cities where bus systems are deficient, privately managed minibuses may present a favorable alternative. Minibuses, which can accommodate up to fourteen passengers, require only one fourth as much fuel as larger buses and are easier to operate in congested areas.\textsuperscript{141} In addition, privately owned transportation modes do not depend upon government financing for sustenance, which frees capital for other pressing demands. Minibuses also provide an alternative to private automobile use. In Mexico City, shared taxis carry more passengers than private cars, despite the fact that they are fewer in number.\textsuperscript{142} The benefits of minibuses also are evident in Kuala Lumpur, where they will account for 60\% of all trips in 1980 and reduce the average trip time by thirty-five minutes.\textsuperscript{143} Although costs per seat mile are higher for minibuses than for buses, the greater routing flexibility of minibuses contributes to higher average occupancy rates.

In an attempt to solve transportation problems, several very large cities have de-emphasized efficiencies gained from minibuses and from previously discussed transport alternatives in favor of rapid rail and subway systems. Sao Paulo, Buenos Aires, Seoul,
and Mexico City have constructed rapid rail subway systems. However, the overall benefits of subways are dubious. Very high capital and operating costs coupled with non-labor intensive operating and maintenance procedures are among the primary disadvantages of underground rapid transit systems. Subway construction costs largely depend upon local terrain, but can exceed $25 million U.S. per lane mile. Although operating costs for subways are lower than for buses in most instances, high initial costs foreclose utilization of the systems by poor people, unless heavy government subsidization is available. The strain such expenditures would place on the public budgets of most developing country cities is prohibitive. Although subways potentially have high capacities for passengers, are especially fast, and can alleviate surface congestion, a well-managed bus system can achieve similar objectives at a lower cost.

Recently, in recognition of these disadvantages, Brazilian authorities have instituted plans to upgrade bus services rather than to build more subways.

The severe incidence of road congestion, characteristic of most DC cities, exists despite presently low levels of private automobile ownership. However, as is the case with human population, the number of private cars in the developing world will increase dramatically. Estimates indicate that, as income levels rise, the automobile population of the developing world will grow by 100 million from the years 1970-2000. This proliferation portends considerable difficulties for transport planners, largely due to the inefficiency of private automobile use vis-a-vis public transportation. The disadvantages of private car ownership are manifold. Cars use approximately nine times more road space per passenger than buses, thus creating a continuing demand for expensive road construction. In Mexico City, for example, 1.7 million private cars use 60% of road space, although each car generates only a little more than two trips per person per day. In addition, automobile purchases may have a detrimental impact on foreign exchange levels. Obviously, cars require more fuel per passenger

144 WORLD BANK, URBAN TRANSPORT 83 (1975).
145 HERBERT, supra note 25, at 152.
146 WORLD DEVELOPMENT REPORT 1979, supra note 3, at 80.
147 Id.
148 WORLD BANK, URBAN TRANSPORT 26 (1975).
149 Id.
150 COMMERCIO EXTERIOR DE MEXICO, supra note 134, at 413. In Mexico City, 60% of the entire surface area is devoted to roads.
than buses and use scarce space for parking. Although cars are
convenient for the elite who own them, owners of private
automobiles do not contribute a fair share of the total costs
incurred by their use.

Automobile use tends to be most intense in urban areas during
peak travel hours, when other modes of transport are also in full
use. The spatial requirements of automobiles render their users
the primary culprits in exacerbating congestion. Cars interfere
with other cars as well as with public transport. The congestion
contributes to unreliable bus transportation resulting in reduced
ridership and increased car use. Hence, a program that imposes
financial charges for automobile use on congested roads appears
desirable, at least during peak hours. Such a program was
initiated in 1975 in Singapore, a city with a radius of only eight
kilometers but with an automobile population of over 250,000.151
The Singapore Area Licensing Scheme has been quite successful
and should serve as a model for other cities, in both the developed
and the developing world.152 To control rush hour traffic, the
Singapore Plan delineates a restricted zone encompassing most of
the downtown business district. The zone has twenty-two entry
points. Motorist who enter these points between 7:30 and 10:15
a.m. must pay $27 U.S. per month.153 The objective of the plan was
to reduce the flow of cars by 25% during the busy morning hours,
but the overall reduction was 40% and the revenues amounted to
$200,000 per month.154

In addition to area licensing programs, other measures, such as
increased parking fees in concentrated areas, should discourage
private automobile use. Korea and Colombia have lowered
motorization and congestion levels by imposing high import fees
and gasoline taxes on automobiles.155 In an effort to improve
traffic flow, the city of Bombay recently adopted a program of
staggered work hours for government offices, schools, and private
businesses.156 To date, most third world cities have had only

151 Urban Transit, 2 The Urban Edge 3 (1978).
152 World Bank, Relieving Traffic Congestion: The Singapore Area License Scheme 1
(1978).
153 Although initially taxis were exempt from the charge, after some trial and error,
Singapore authorities chose to license taxi use in the restricted zone at one-half the private
car price. World Bank, Relieving Traffic Congestion: The Singapore Area License
154 Dean, Singapore's Money Making Solution to Traffic Congestion, 7 HUD Challenge
6 (1978).
155 Policies for Efficient Growth, supra note 17, at 159.
156 Urban Transit, 2 The Urban Edge 3 (1978).
limited success in improving central-area congestion. Future population growth will present added difficulties.

Changes in city size and form wrought by population growth greatly affect travel length, speed, and location of transport infrastructure, as well as the ultimate adequacy of urban transport. As city expansion occurs, trip distances generally increase in proportion to the square root of the radius of the city. At the same time, population densities in cities tend to diminish with population growth, further increasing trip distances. A World Bank study found that:

The adverse effects of increase in population and decrease in density tend to cumulate. For instance, if a city grows from 2 to 4 million while its population density decreases from 10,000 to 8,000, the average trip distance may be expected to increase by about 25%. If an average vehicle in the first case makes five trips during its daily travel time of 1.2 hours at a speed of 12.5 miles per hour, the same vehicle will probably have to travel at a speed of 16.5 miles per hour to make the same number of trips in the second case. Furthermore, the same vehicle in a city of 8 million with a population density of 6,000 will need a speed of about 20 miles per hour to achieve the same trip rate.

In expanding cities, then, if vehicle speeds are not constantly increased, the transportation system will become less and less efficient.

The physical pattern of many developing country cities is vulnerable to the detrimental consequences of population growth upon transportation systems. Most developing country cities currently are characterized by a single large central business district, which is the most accessible of urban areas. The benefits of accessibility create additional transport demands as people and businesses locate in areas of optimal transport facilities. Satisfaction of the demands promotes further concentration and culminates in an urban form based upon radial roads, which often are inadequate upon completion. As a metropolitan study for Lagos, Nigeria stated, "When better radial roads are built into the central business district, more people come in their

158 *Id.*
159 *Id.*
cars and cause congestion worse than before the roads were built."\(^1\)

Concentration in a central area also increases land prices. As a result, rents become too high for residences which relocate on the city's periphery, further increasing the distance workers must travel to employment and decreasing population density. An expanding mononuclear urban form increases average trip distances and renders the placement of transport facilities to sustain its expansion progressively more costly as the price of land escalates. Because most developing country cities cannot afford the infrastructure required to support the single district city, plans should be promoted to de-emphasize the dominance of central business districts in favor of secondary centers without sacrificing transport economies and general productivity which are facilitated by high population densities and close proximity of commercial activities.

Although there is no one urban pattern to which developing country cities should aspire, the establishment of self-sufficient secondary centers would be advantageous in most cases. Not only would new activity centers lower transport costs and improve access and mobility, they also would decrease the distance from work to residence while avoiding the wasteful spectacle of peak hour traffic flowing in only one direction. Successful development of secondary centers requires close planning between land use regulations and placement of new transport infrastructure. New residential and industrial centers should be designated near the city's periphery and transportation expenditures allocated to the new centers rather than to programs designed to enhance central area access.\(^2\) In addition to providing accessible and less costly centers, cities may strengthen the viability of secondary centers by encouraging relocation of industry and business through increased charges for public utilities and higher property taxes for enterprises in the congested district. Although secondary centers tend to emerge over time, government action is necessary

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\(^1\) Tyler, *Transport Planning in Developing Countries: Principles and Methods*, 35 *Ekistics* 367 (1973).

\(^2\) In January 1975, President Lopez of Colombia announced the development of a plan for urban decentralization called "cities within the city." The plan is designed to foster growth of semiautonomous subcenters around Bogota and five other Colombian cities. The subcenters are to be characterized by high density housing and a wide range of employment opportunities. Public ownership of land in the subcenters is encouraged to protect local governments against rising land values. Gilbert, *Bogota: Politics, Planning, and the Crisis of Lost Opportunities*, 6 *Latin America Urban Research* 116 (1978).
to ensure that sufficient businesses relocate quickly enough "for their mutually supporting activities to develop satisfactorily.'

If the development of secondary centers were successful, transportation would be improved considerably and the adverse effects of continuous growth radiating from a single business district would be avoided. Given the vital role of transportation in a city's social and economic development, long term planning, as contrasted with immediate satisfaction of entrenched demand, should receive top priority. After initial investments in transport infrastructure for new subcenters, transportation costs should decline. Perhaps any budget savings could be allocated to pressing needs in the areas of health care and education. These are the topics to which this Note now turns.

B. Health Services

Health services in urban centers of the developing world are far superior to those available in rural areas. Urban dwellers live longer than their rural counterparts and have greater access to doctors and hospital beds. People in cities are, indeed, healthier than people in rural areas. However, statistics and average indices of health conditions in developing country cities can be very misleading. In fact, the urban poor often are more susceptible to illness than the rural poor, despite the existence of sophisticated medical facilities in most cities. This discussion considers the major health problems of the urban poor in developing countries and strategies which may improve public health.

The economic status of the poor in developing country cities and the living conditions that result from poverty appear to harm public health to the same extent as the paucity or inaccessibility of health services. The poor live in dense neighborhoods, have a low quality and quantity of food supply, a contaminated water supply, and inadequate sanitation facilities. Under such conditions it is not too surprising that communicable diseases run rampant, that an estimated 360 million urban poor suffer from calorie deficiencies, or that fecally-transmitted diseases, such as cholera,

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163 WORLD BANK, URBAN TRANSPORT 52 (1975).
164 POLICIES FOR EFFICIENT GROWTH, supra note 17, at 327.
165 HERBERT, supra note 25, at 93.
166 The Urban Poor are also Sick, 2 THE URBAN EDGE 2 (1978).
167 In 1978, 74,632 cases of cholera were reported. This is the highest figure since 1961. UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT, AGENDA 3 (1979) [hereinafter cited as AGENDA].
are on the increase. The incidence of malaria, tuberculosis, bubonic plague, and menengitis also appears to be on an upsurge among the urban poor.168

Of all health problems, malnutrition is the most serious because it enervates the body's immunological system and renders the victim vulnerable to a host of debilitating diseases. Malnutrition is common in urban and rural areas and afflicts infants, children, and pregnant and lactating women most severely. In 1978, as many as 13 million children succumbed to otherwise non-fatal diseases which were exacerbated by poor nutrition.169 Because good nutrition is fundamental to good health, the greatest return on health care expenditures will be realized if governments concentrate on approaches to alleviate poor nutrition. A program to improve nutrition is underway in Manila and consists of cooperation between the schools and the mass media in providing nutrition education. Special emphasis is placed upon the benefits of breast feeding and preparation of nutritious meals.170 To increase the availability of nutrition information and treatment, local governments in New Guinea have imposed fines on parents who neglect to bring their children to health clinics.171 Generally, nutrition programs should be designed to identify children who show early symptoms of malnutrition, to provide enriched food and nutrition education; to expand health services which affect nutritional status, such as immunizations and treatment of disease, and to increase the supply and quality of locally grown food.

Although the well-being of the urban poor would be enhanced dramatically if nutrition levels were higher, other changes in health care systems and urban environments are necessary to lower the incidence of disease and to provide medical attention more equitably. Until recently, the medical establishment of most developing countries had been oriented toward curative medical care, similar to that provided in developed countries, where degenerative disease is more common. In developing countries, however, a curative mode, replete with expensive equipment, highly trained doctors, and large hospitals, is inappropriate due to both acute resource shortages and the fact that the major causes of death are from infections, parasitic diseases, and malnutrition.172 Although some diseases may be cured, many more

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168 Policies for Efficient Growth, supra note 17, at 329.
169 Agenda, supra note 167, at 16.
170 The Urban Poor are also Sick, 2 The Urban Edge 5 (1978).
171 Id. at 4.
172 Policies for Efficient Growth, supra note 17, at 323.
fail to be prevented. The illogic of such a system is clear. The curative model's inefficiency becomes apparent when one considers, for example, that the cost of hospitalization of a malnourished child is 200 times that of preventive treatment. Along the same line, the cost of prevention of Vitamin A deficiency blindness is 1,250 times less expensive than the cost of maintaining a blind person.

The change from a curative to a preventive orientation should be associated with a change from patient treatment in hospitals to treatment in smaller health facilities located throughout the city and staffed by community health workers rather than by expensive medical experts. The city of Jakarta has embarked upon a program of medical decentralization in which thirty health centers are being constructed to serve neighborhoods. The health centers are to be staffed by paramedics qualified to administer first aid and immunizations, and to educate the community in matters related to birth control, nutrition, personal hygiene, and sanitation.

Improved water and sanitation facilities are urgently needed to avoid further deterioration of public health in large cities of developing countries. As urban population growth continues, the amounts of water needed and wastes generated will increase, as will related health and management difficulties. At present, water and sanitation systems of most developing country cities are severely overloaded. Inadequacies contribute to the spread of numerous illnesses. In many urban areas less than one-half of the population has safe drinking water. Similarly low proportions have access to piped sewerage systems and methods of waste disposal used often constitute a health hazard. Government investment in water programs should be of sufficient magnitude to guarantee a safe and equitably distributed water supply.

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173 The Urban Poor are also Sick, 2 The Urban Edge 2 (1978).
174 Id.
175 Policies for Efficient Growth, supra note 17, at 332.
176 The Urban Poor are also Sick, 2 The Urban Edge 3 (1978).
177 Id.
179 United States Agency for International Development, Guidelines for Formulating Projects to Benefit the Urban Poor in Developing Countries 87 (1976) [hereinafter cited as Guidelines for Formulating Projects].
Although government expenditures allocated to sanitation improvements generally have been lower than for programs to upgrade water supply, at least minimal sewage disposal systems are essential for urban development. In addition to providing a level of sanitation service which benefits the greatest number of people, city planners should stress the need for community education and citizen participation in environmental sanitation problems. It is clear that improved services improve health. For example, a concentrated effort to upgrade water and waste disposal facilities in the Philippines lowered the incidence of cholera by seventy percent.

Government sponsored health related projects should be oriented primarily to the needs of the urban poor. Accessible and affordable health services and nutrition programs warrant extensive government subsidization. Such expenditures should be viewed as productive. Clearly, a robust and vital citizenry is necessary to overcome considerable social problems. Under present conditions, however, "the slum dweller accused of being lazy may be as efficient as possible, since few of his or her middle-income critics would . . . achieve more on a handful of rice a day."

C. Education

Ideally, the provision of educational opportunities should facilitate social and economic modernization and should introduce a more equitable division of the benefits of economic growth to the poor collectively, and among the poor individually. Accordingly, in the past several decades, most developing nations have allotted 20% or more of their public budgets to educational programs. Progress ensued. Public school enrollment in the developing world increased approximately 80% between 1960 and 1970. Despite high expenditures and enrollments, however, more than 100 million additional people in the developing world are illiterate now than in the mid 1950s. The number of illiterate adults may reach 865 million by 1990. The major task confront-
ing less developed countries is to improve access to education to an increasingly large population. However, equitable distribution of educational opportunities will not resolve educational problems. Education alone is no panacea. Policy changes often will be essential to achieve education objectives. In addition, unless balanced education programs are promoted within a comprehensive development strategy, the ideal of increasing the productivity and status of impoverished classes by way of education will not materialize. Rising unemployment rates among the educated reflect a distortion between supply and demand created, at least in part, by a failure to relate education to the needs of developing countries. This discussion considers means to realize more fully the qualitative and quantitative goals of urban education.

Although cities in developing countries generally provide greater education opportunities than rural areas, the situation is similar to that within the health care sector in that the urban poor receive disparate services. In Lusaka, Zambia, for example, half of the population lives in squatter settlements, but all schools, with one exception, are located in more affluent areas of the city. In metropolitan Cairo, primary schools in low income areas can accommodate only 20% of the school age population; whereas, in the city as a whole, primary school spaces are available for 75% of school age children. However, unequal access reflects more than the location of educational facilities. Education costs to low income groups often are prohibitively high, even where education is financed by the government. Private expenditures for textbooks, clothing, transportation, as well as opportunity costs involved, hamper school attendance and increase the drop-out rate. Estimates reveal that private out-of-pocket expenditures to send one child to school in Malaysia amount to 18% of the income of families in the lowest quintile in the income distribution. Malaysia is not unique in this regard. Therefore, to improve access for the urban poor, government subsidies should concentrate upon lowering the private out-of-pocket costs of education in addition to constructing more facilities in low income neighborhoods. Although resource shortages may prompt a choice between exclusive alternatives in terms of subsidization, it is important to

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188 In Sri Lanka, in 1970, 63% of people seeking employment had secondary educations. Only eight percent of the unemployed had no education. Urban Education, 3 The Urban Edge 2 (1979).
190 Policies for Efficient Growth, supra note 17, at 322.
191 Id.
note that in developing countries generally as much as one-fifth of the education budgets benefits the mere three percent of students who attend universities. If less emphasis were accorded secondary and tertiary education and more placed upon ensuring the dissemination of basic skills, more resources would be available for the urban poor.

The issue of what constitutes a proper mix of primary education and higher education should be approached differently in developing countries, depending upon the availability of resources. Primary education has a social rate of return in excess of expenditures and usually in excess of the benefits of higher education. However, institutions of higher education are important because they facilitate creation of theoretical structures which make knowledge meaningful and because they may foster a better sense of identity for developing nations. Nonetheless, at present, concentration upon primary education is a greater necessity. In the poorest countries, the development of low-cost basic education designed to provide functional literacy and numeracy skills should be emphasized. Costs may be lowered by imposition of higher student-teacher ratios and by reducing education requirements for teachers. In more wealthy nations of the developing world, where primary education is widely available, secondary and post-secondary educational development may be encouraged but must be balanced and structured to meet societal needs.

In addition to reduced subsidization of higher education, other educational policy changes are indicated. At the outset it may be necessary to relax the formalistic curricula and rote learning methods based upon educational models of developed nations in order to relate the development of skills to the needs of employers. Contemporary policies often consider primary education as a first step to higher education rather than as a means to skill development. Such orientations do not address the needs of students who are incapable of continuing beyond a program of basic education. A combination of literacy training with vocational training in small-scale manufacturing and craftwork would better serve the needs of many urban poor. On-the-job training and work-study programs can be particularly valuable and warrant close cooperation between governments and employers.

182 Urban Education, 3 The Urban Edge 2 (1979).
183 Policies for Efficient Growth, supra note 17, at 315.
Finally, education is a pervasive need in developing countries and government funding should not be restricted to formal training of school-age young people. Adult women, in particular, need training in such nontraditional education areas as birth control, prenatal care, nutrition, and family hygiene. Consumer education, community environmental education, and education in the country's governmental process will complement formal training and will have an immediate and long-term beneficial impact on the quality of life in large urban centers of the developing world.

V. CONCLUSION

In Politics, Aristotle wrote that cities of good reputation have limited populations.\(^{194}\) If so, many contemporary cities are tainted. Although the rapidity of population increase, the patterns of urban growth, and the availability of resources to cope with growing human needs differ from country to country and region to region, a common trait shared by developing country cities is their inability to provide adequate levels of public services for the masses, especially in areas of transportation, health care, and education. Transport planning seeks to meet the needs of car owners or to satisfy entrenched demand rather than to abandon costly and inefficient mononuclear urban forms. Health care is often unavailable to the people with the greatest need due to an emphasis on curative rather than preventive medicine. Education, the one area that offers great hope for the destitute, satisfies neither national nor individual needs. These problems exist today. Unless massive efforts are begun to prepare for future urban growth, the present notoriety of many developing country cities will appear meritorious compared to their reputations in the year 2000.

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\(^{194}\) Aristotle, Politics BK. VII. Ch. 4. The Basic Works of Aristotle 1283 (R. McKeon ed.).