



*The Urban Poor and Urban Basic  
Infrastructure Services in Asia:  
Past Approaches and Emerging Challenges*

Yue-man Yeung

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Hong Kong Institute of Asia-Pacific Studies

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## **The Urban Poor and Urban Basic Infrastructure Services in Asia: Past Approaches and Emerging Challenges**

### **Executive Summary**

Since the end of World War II, rapid urbanization in Asia has created a significant demand for the provision of urban basic infrastructure services. The problem is expected to grow in the future. The urban poor are concentrated in Asia and more pronouncedly in South Asia.

The present state of urban service provision is very inadequate in all the sectors including land, housing, water, sanitation, solid waste disposal, transport, electricity and public lighting. More than any other population group, the urban poor are usually served last owing to structural, traditional and attitudinal biases. Improvement of the access of the poor to basic urban services is a major challenge for Asian planners and policymakers, now as well as in the future.

A variety of approaches to delivering urban services to the poor have been tried, with varying degrees of success. A trend seems to be emerging for multi-faceted and integrated projects, with active beneficiary participation.

On the basis of country and project experience in Asia, many lessons, both of success and failure, may be learned. Some of the more salient lessons may include the failure of top-down planning, the need for community participation, the merit of strengthening local governments, the urgency of investing in leadership and training, and increasing women's contributions.

An examination of the Asian experience in delivering basic urban services highlights a host of key policy issues and alternatives. Foremost among these is the question of who pays for the services. It is an issue that local governments are particularly and commonly ill prepared to tackle in view of their low revenue base. Many other issues may be conceptualized, such as cost recovery versus subsidization, centralization versus decentralization, equity versus efficiency goals, public versus private sector provision, formal versus informal sector roles, high versus appropriate technologies, and so on.

The paper concludes with a discussion on likely ways of meeting emerging challenges on delivering basic infrastructure services in Asian cities.

## Introduction

Rapid urbanization in developing countries in the postwar period has been a process that weighs heavily on their development policy, not the least of which is the provision of infrastructure services in urban areas. In 1980, 40 per cent of the world's population lived in cities, but Asia, representing the least urbanized region, had only 26 per cent of its population living in cities. This seemingly low overall rate of urbanization masks considerable sub-regional and intra-regional diversities in the urban and socio-economic condition. Whereas South Asia and Southeast Asia had only 23 per cent of their population living in cities, East Asia, inclusive of its developed countries, reached a much higher level of urbanization, with 71 per cent of its population concentrated in urban places.

If population projections figures are correct, the pressure of urbanization on developing countries in the past has been modest compared with what is in store for the future. The United Nations projects an accelerated rate of increase of urban populations by the end of this century, resulting in urban populations in many Asian countries, double or triple the present figures. The number of Asian cities with populations of more than 1 million is projected to increase from 69 to 148. Also, of the world's largest 22 cities, Asia will have 13, each with a population of over 10 million. It is imperative that adequate planning be done for providing urban services to the poor in Asian cities of the future.

Basic infrastructure services refer to services such as housing, land, transport, water supply and so on, without broadening the concept to include other services that may be viewed as basic to the needs of urban dwellers such as food, energy and other services. The notion of *access* encompasses both the availability of services, wherever these are provided, as well as the affordability of services by the inhabitants.

Efforts to improve access by the urban poor to basic infrastructure services have been made at international, national and city levels. After almost two decades of trial and experimentation, a growing stock of experience, both positive and negative, in delivering basic services to the urban poor is accumulating. This paper attempts to delineate the dimensions and character of urban poverty, survey the current state of basic

infrastructure services in Asia, highlight successful and unsuccessful approaches to basic infrastructure service delivery, take stock of the lessons learned, outline key policy issues and finally, anticipate the challenges of the future.

## The Urban Poor in Asia

Despite the still unsettled debate on the conceptual and operational definitions of urban poverty, one fact is unequivocal: it is that cities in developing countries are being burdened with large segments of their populations which to all intents and purposes must be viewed as poor. Any realistic urban policy must take into account this large and growing proportion of poor urban populations. Even in developed countries, urban poverty is a persistent social condition which has failed to disappear with national and general economic progress and prosperity. The inescapable conclusion that follows is that urban poverty will be with Asian cities for as far as we can see into the future.

Urban poverty persists in the majority of Asian cities for many reasons including the absence of structural change and of adequate employment opportunities. There is a positive correlation between structural change, defined as the shift of employment from agriculture to non-agriculture, and the increase in the GDP in tandem with the urbanization process. This has occurred most spectacularly in the newly industrializing countries (NICs) of Asia and slowly or not at all in other countries in the region. Between 1960 and 1980, Taiwan and South Korea witnessed a sharp decline of their labor force in agriculture from 56 to 20 per cent (Taiwan) and from 66 to 34 per cent (South Korea) and a related huge increase in industry, from 11 to 33 per cent (Taiwan) and from 9 to 29 per cent (South Korea). In the period 1980-1989, the GDP of countries in East Asia and South Asia grew impressively at an average annual rate of 8.4 and 5.5 per cent, respectively, against developing countries' average of 4.3 per cent. The corresponding figures on a per capita GDP basis were 6.7 and 3.2 per cent. So rapidly have the economies of East Asian countries grown that between 1965 and 1989, their share of developing country real incomes rose from 22 to 37 per

cent (*World Development Report (WDR)*, 1990).

Rapid urbanization and uneven economic growth have been accompanied by accentuated social inequities and economic inefficiencies. A large proportion of the new urban population is poor, hence shifting the incidence of poverty from rural areas to urban areas within the region. The growing incidence of urban poverty aggravates the already serious situation in employment, the environment, physical and social services. In large cities of Asia with large segments of their population living in hardship and poverty, the severity of inadequate basic infrastructure services is magnified.

Students of social conditions have agreed that the notion of subsistence poverty is arbitrary and circular for it involves subjective judgment on the monetary and physical needs of individuals. On the other hand, the idea of relative poverty seems to have become acceptable. There is support for the notion that poverty is a general form of relative deprivation, the outcome of the maldistribution of resources. Maldistribution not only involves income but also other resources such as capital assets, occupational fringe benefits, access to public services and private income in kind. It is the household's effective command over society's resources that determines its relative position to the rest of society. A household in poverty is one which has resources, opportunities and economic surplus substantially removed. This immediately raises the questions of social and economic inequality as part and parcel of the concept of poverty.

Politicians and planners have tried to operationalize the concept of poverty in order to assist, or sometimes be seen to assist, the poor. Policies designed to narrow the "poverty gap" or "income deficit" and the World Bank's "lower 40 per cent" principle are examples of putting into practice measures to alleviate poverty. Income maintenance programs in several developed countries are variants on the same theme. National and international agencies have often adopted the concept of absolute poverty expressed in some monetary value equivalent to a minimum level of consumption necessary to sustain physical health. However, problems of data collection, comparability across countries and cities, and rapidly changing economic circumstances, coupled with religious, ethnic and ecological factors, limit the value of this concept in

application. In the absence of anything more manageable, the concept of absolute poverty is often applied using a "poverty line" to delineate the size of the poor population. There is, of course, another common practice of arraying the population by income levels in percentage terms or statistical groupings, whereby policies designed to reach a certain proportion of the poor population can be tailored and targeted, at least theoretically.

**Table 1:** Incidence of Urban Poverty in Developing Countries, 1988

Region	Urban Population (million)	Share of Each Region (%)	Urban Population Below Poverty Line (million)	Share of Each Region (%)	Urban Population Below Poverty Line (%)
Africa	133.24	11.2	55.46	17.0	41.6
Asia	591.91	49.7	136.53	42.0	23.0
EMENA	174.14	14.7	59.53	18.0	34.2
Latin America	291.66	24.5	77.27	24.0	26.5
Total	1,191.95	100.0	329.79	100.0	27.7

Source: The World Bank, Infrastructure and Urban Development Department, *Reaching the Poor Through Urban Operations*, November 1989.

Based on the notion of the poverty line, a 1988 World Bank estimate showed that the incidence of urban poverty was most pronounced in low-income countries, where 177 million inhabitants or 27 per cent of the total urban population were judged below the poverty line. As much as 53.7 per cent of the world's urban poor were concentrated in these countries. In Asia about 137 million persons, or 23 per cent of the total urban population in Asia lived in poverty, representing the largest regional concentration of the urban poor in the world (Table 1).

Inhabitants of slums and squatter settlements in Asia contend with appalling physical conditions and lack of basic infrastructure services. Demographically, poor households tend to be large, with many children

or other economically dependent members. A 1984 Pakistan study revealed that the poorest 10 per cent of households had an average of 7.7 members, of whom 3.3 were children aged below nine years. These figures may be compared with the corresponding national averages of 6.1 and 2.0. Many studies have shown that the urban poor depend heavily on the informal sector as their source of livelihood in a wide range of callings. About half of the urban poor in Pakistan are self-employed, a sector requiring less in skills than is usually demanded of wage-earners. Poor households typically spend a disproportionately large amount of their income on food. For example, the Indonesian poor spend as much as 60 per cent of their income on the local food staple. Household per capita expenditure and adult illiteracy are negatively correlated. A recent study in India shows that the higher the percentage of illiterates aged 15 and above, the lower is the household per capita expenditure. This is consistent in both rural and urban populations, with females more disadvantaged.

Over the past two decades, many Asian countries have made a successful assault on poverty, as reflected in significant improvements in key indicators, such as mortality of children under five years, life expectancy and primary school enrolment. Relative to other developing regions, the progress made in reducing poverty in East Asia has been particularly notable. In Indonesia, for instance, the headcount index of poverty plunged from 58 to 17 per cent between 1970 and 1987. Likewise, Thailand witnessed a drastic reduction of the headcount index from 59 in 1962 to 26 in 1986. Although these figures did not break down rural and urban poverty, one might assume that urban poverty has also been reduced as well.

Incomes tend to be distributed more unequally in low than in higher-income countries. In Asia, the World Bank social indicator data of 1980 revealed that the percentage of income received by the richest 5 per cent in selected countries were as follows: Bangladesh (16.7%), India (26.3), Republic of Korea (17.1), Malaysia (27.0), Pakistan (17.8), Philippines (28.8), Sri Lanka (18.6) and Thailand (23.8). On the other side of the coin, the same data source showed that the percentage of income received by the poorest 20 per cent were the following: Bangladesh (7.9%), India (6.7), Republic of Korea (7.1), Malaysia (3.3), Pakistan

(8.0), Philippines (3.7), Sri Lanka (7.5) and Thailand (6.1). It is clear from these sets of figures that income distribution is extremely uneven in some Asian countries but the situation is varied among the selected countries. For instance, income distribution is more unequal in Malaysia and the Philippines than in Bangladesh, Republic of Korea, Pakistan and Sri Lanka.

Within Asia, the proportion of urban populations below poverty income levels varies sharply by subregion and country. The World Bank social indicators of 1985 depicted the following distribution of urban populations below poverty income level: Bangladesh (86.0%), Burma (40.0), India (40.3), Indonesia (26.0), Malaysia (12.6), Nepal (55.0), Pakistan (32.0), Philippines (32.0), Sri Lanka (26.0), Republic of Korea (18.0) and Thailand (15.0). The diversity in the level of urban poverty implies that the intensity of the problem varies as do the policy instruments. The problem of urban poverty appears to be most grievous in South Asia whose urban populations and by extension urban poor populations have been increasingly rapidly. It has been estimated that South Asia's share of urban poor households will increase, on a global basis, from 31 to 44 per cent in the period 1975-2000. By century-end, South Asia will have an estimated 32.6 million urban poor households that can be translated into almost 200 million urban poor people. East Asia, on the other hand, is expected to achieve a substantial reduction in general poverty with its per capita incomes projected to grow at 5.1 per cent annually to 2000. The divergent situation calls for a diversity of approaches to alleviating poverty and to improving access by the poor to basic infrastructure services.

### **The State of Urban Service Provision**

For the scale and speed of urbanization that has been taking place in developing countries of Asia, most municipal governments are unequipped physically, fiscally, politically and administratively to tackle the problems of providing basic infrastructure services to their people. In a situation of scarce resource allocation, the urban poor are frequently badly placed to compete for essential services. Biases in investment,

standards, pricing policy and administrative procedures more often than not skew services in favor of the rich, denying the poor shelter, safe water, acceptable sanitation, minimal nutrition and basic education.

### *Housing*

The gravity of the housing situation may be brought home by a few quantitative descriptions. In urban Asia, the average number of persons per room is 2.17 and nearly one-third of all dwellings have three or more persons per room. In extreme cases of overcrowding, the poor may live on pavements, hire beds on a shift basis, or share the same room among several households. Half of the inhabitants of Calcutta live in one-room shelters and an estimated 77 per cent of the households in Greater Bombay have an average of 5.3 persons to one room.

The estimated percentage of people living in slums and squatter settlements generally ranges from 30 to 50 per cent in large Asian cities, and although such figures remain quite stable for most cities, only the city-states of Hong Kong and Singapore have been successful in reducing their population in such residential environments because of their outstanding public housing programs. One such set of estimates of the proportion of urban population living in slums and squatter settlements in the mid-1970s is as follows: Ahmedabad (27%), Colombo (25), Dhaka (50), Delhi (36), Hong Kong (17), Kuala Lumpur (20), Manila (35), and Seoul (29) (UNCHS, 1982). Such figures are subject to different interpretations by different countries as illustrated by the 35 per cent and 37 per cent quoted for Kuala Lumpur by Pendakur (1984) and Grimes (1976). When translated into population figures, these may mean 1.7 million inhabitants in Calcutta, 1.25 million in Jakarta, and 0.81 million in Karachi. The scale of the squatting problem is immense for most governments to deal with and, unless there is a way of improving the situation, housing needs for the masses will continue to haunt many politicians and planners in urban Asia.

For almost too long, many governments in Asia have adopted the twin policy measures of squatter relocation and low-cost public housing schemes in their vain attempts to come to terms with the housing problem. The most eloquent expression of the failure of the former is the

attempt in 1963 to relocate squatters from Intramuros and Tondo in Manila to Sapang Palay, some 40 km away. The project was a complete failure as, for lack of employment opportunities and basic services in the relocation area, the squatters quickly drifted back to the city. The irony of the episode is that after all these years, the vacated land in Intramuros is still not built upon as new construction would have to meet certain requirements in architectural style and planning standards. Despite reduced building standards and special financial arrangements, public housing schemes in most countries in Asia are still beyond the reach of most low-income households.

Since the early 1970s, there have been numerous praiseworthy developments directed at improving housing for the needy at the local, national and international levels. Yeung (1983) has accounted for these elsewhere, but several observations are merited here.

In terms of intervention strategies, there appears to be an increasing realization that in order to ensure that the benefits of housing programs percolate to women, gender-specific policies must be seriously considered. Although the poverty of women-headed households in Asia is not more pronounced than in other developing regions, existing housing policies for the poor, in particular related to land access and credit facilities, work against women. This problem is compounded in certain Asian societies in which women are disallowed legal inheritance to land and immovable property. Given the degree of poverty among women in Asia and their unrecognized but vital economic and social contribution to households, the need for policymakers and planners to take into account gender differences in housing the poor at the policy level is more urgent than ever.

After decades of ineffective policies, aimed largely at clearance of squatter settlements, many governments have adopted a conciliatory and accommodating approach towards all forms of spontaneous settlements. Curiously, the ideas of mutual aid, self-help, community action, core housing and progressive development derived from the actual practices of squatters and slum dwellers, held so much in suspect in previous decades, suddenly became the main ingredients of a basic housing policy in many Asian countries. It was as if planners and politicians had just discovered that squatters had skills, motivation, and perhaps resources to



build basic shelters. The marked softening of the earlier hard line policy toward these forms of settlements came about in part by virtue of the efforts and support of the international assistance agencies.

At the international level, since 1972 many in the donor community have been more forthcoming with assistance to shelter programs in Asian countries. For example, the United States Agency for International Development (USAID) set up its Housing Guarantee Loan Program to provide housing finance; the Institute of Housing Studies (previously the Bouwcentrum for International Education) and the Canadian International Development Agency (CIDA) have been active in supporting training for housing administrators; the Asian Development Bank (ADB) assisted in shelter projects along with other integrated urban infrastructure components in several countries; the United Nations Children's Fund (UNICEF) continued its extensive and well-covered work towards better services and opportunities in slums and squatter communities, particularly for women and children; and the United Nations Environment Program (UNEP) funded projects such as those in marginal settlements in Manila (Barrio Escopa) and Jakarta, designed to explore the possibilities of utilizing alternative (solar) energies to improve living conditions for the inhabitants. As an offshoot of the United Nations Habitat Conference held in Vancouver in 1976, the United Nations Center for Human Settlements (UNCHS) has been established to promote better linkages among researchers, policy-makers and practitioners between countries and across regions through support for action plans, research, publications, training, conference, and so on.

### *Land*

Land and housing are often mentioned in one breath in discussion of basic urban services. Indeed, with the widespread and sharp appreciation of land prices within Asian cities, in particular large cities, the hitherto informal access to urban land by the poor is faced with new obstacles and possible blockages.

During the past two to three decades, even the urban poor had relative ease in firming up locations through land invasions and illegal occupation and constructing their own housing. However, this period of

extensive availability of land is coming to an end. Increasing commercialization of land and land speculation, expanding administrative controls, demographic growth and suburbanization, upgrading of irregular settlements and the sheer physical growth of the city underlie the rapid exhaustion of the stock of accessible land.

Yet, over the last three decades, there have been notable changes in the thinking of architects, planners and engineers on the land issue. Angel and others (1983) are credited with an original and refreshing approach to the problem of land access for housing the poor in Asian cities. They argue that the resolution of the land issue is central to the resolution of the problem of shelter and that the land issue is not a technical issue but largely a political and institutional one. Giving attention to land issues represents a shift of focus in the debate on affordable housing.

By now, many Asian cities have evolved active informal land and housing submarkets quite separate from the formal and legal framework. In Bangkok five major housing submarkets have been identified which cater for the needs of low-income groups. An obvious advantage of the private informal sector is that it can acquire, develop and dispose of plots more efficiently than the public sector. Increased affordability is reflected in the fact that 45 per cent of households were unable in 1987 to afford a house built in the private sector submarket, compared with 85 per cent in 1980 (Angel, et al., 1987). In Ahmedabad, Hyderabad and Delhi, illegal subdivisions and unauthorized settlements have evolved as a response to elitist standards, urban land demand, and ineffectiveness of urban management agencies. In Karachi, too, illegal subdivisions have thrived since 1947 despite government's efforts to curb them. Thus informal housing, submarkets and land subdivisions have the effect of restoring a balance between supply and demand and of providing an avenue of access for the urban poor to land and housing. Hosaka (1988) maintains that "occupation-building-servicing-planning, which characterizes informal sector development, meets the reality of Third World countries by reversing the conventional sequence of operations."

Government responses to commercial submarkets may range from hostility to acceptance or support. In the last-mentioned case, land readjustment and land pooling as often practiced in Japan and South Korea,

are two increasingly common alternatives. So pervasive and effective is the role of commercial submarkets in the provision of land and housing that UNCHS advocated they be strengthened (Payne, 1989).

Another approach to rationalizing access to urban land is the implementation of an urban land reform program. This was undertaken experimentally in 1978 in the Philippines with the enactment of the Urban Land Reform Law. In Metro Manila, 244 areas mostly in slums and squatter settlements were identified for priority development. However, the political and administrative will was not equal to the basic legal machinery and proved the experience ineffective.

### *Transport*

As cities in the developing world continue to grow rapidly in population, area and functions, the demands on transport networks to maximize economic efficiency are greater than ever. Yet, many Asian cities, spending as much as a quarter of their annual budget to construct and maintain transport systems, are unable to keep up with growing needs. They are increasingly afflicted by serious problems of moving people and goods within their urban areas. Causes leading to these difficulties can be attributed to factors inside and outside the transport sector, such as the lack of harmonization between the distribution of population and activities necessitating long trips, inadequate resources available to the sector and inefficient management of operations.

For most Asian cities during the postwar period, urbanization and motorization have occurred simultaneously. Certainly for some, increased city size has been accompanied by growing affluence and enhanced personal mobility. This is manifested in the phenomenal growth in private automobiles and motorcycles. For example, during the period 1976-1981 alone, Bangkok witnessed a 66 per cent increase in the number of private automobiles and a 190 per cent increase in motorcycles. Similarly, Jakarta and Manila had their automobile population increased by 28 per cent and 170 per cent, respectively. Even under severe transport restraint measures, Singapore also registered a 19 per cent increase in automobiles and a 52 per cent increase in motorcycles. The result of this rapid and sustained growth in motorized vehicles can

be expected: worsening traffic congestion; clutter in the streets, inevitable loss of time by travellers and of fuel by vehicles and increasing noise and air pollution. In the midst of all these changes, the urban poor are especially vulnerable because their low incomes cannot bear increased transport costs. Nonetheless, they need to be mobile to engage in productive activities.

The urban poor, for economic reasons make an inordinate proportion of their trips on foot or by non-motorized transport. In Bombay, it has been reported that 80 per cent of the trips of low-income groups were made on foot, compared with only 25 per cent for high-income groups. A 1977 study of Bandung likewise revealed that 59 per cent of all trips in that city were made on foot, mostly by the poor. For such reasons, the mobility of the urban poor is limited and tends to be focused on essential purposes like work and education.

The primary means of urban transport in most Asian cities is the bus. Bus service, however, is of varied efficiency and uneven access to different parts of the city, low-income areas in particular. Public bus companies, it has been stressed, are often hopelessly inefficient. Annual transport system subsidised by governments have been enormous, such as \$5 million in Karachi, \$10 million in Calcutta, and \$30 million in Bangkok. Private bus systems, on the other hand, have been reported to be much more successful. For instance, Seoul has a highly successful bus operation, with 90 companies of varying sizes, all operating without any direct subsidy. The companies have a combined fleet of 13,000 buses, the routes and fares of which are regulated by the government. On the other hand, the Bombay bus company offers a highly praised service to 3.6 million passengers daily with its fleet of 2,325 buses (*Urban Edge*, May 1985). Apart from the internal management efficiency of the bus companies themselves, there are diverse ways the government can help in traffic management by giving a higher priority and impetus to bus services. One measure that has been adopted by several Asian cities is the designation of bus lanes for priority or exclusive use. In this connection, Bangkok introduced, in 1980, the most extensive system in Asia of 95 km of bus lanes, supplemented, in 1984, by "contra-flow" lanes. The resulting improvement has been very noticeable. Hong Kong, too, adopted the same measure of introducing bus lanes, even before traffic

reached a saturation point.

All too often, low-income areas are inadequately or not at all served by public buses. In Bandung, for example, standard buses are not allowed to operate in the inner urban area except for the intercity parts. Other motorized public transport consists of minibuses and microbuses. The *becak* (bicycle rickshaw) is the backbone of the public transport system. In most Asian cities, a vast range of small vehicles, variously called para-transit or intermediate/informal transport, provide the much needed service to the urban poor. Complementing the public system, these para-transit modes include the *jeepney* and tricycle in Manila, minibus and microbus in Kuala Lumpur and Bandung, *samlor* and *silor* in Bangkok and Chiangmai, *bemo* and *helicak* in Jakarta and Surabaya and auto-rickshaw in Dhaka. These vehicles can travel along narrow roads and lanes and provide door-to-door service, a reflection of local innovation and adaptation. All these modes of low-cost transport are operated almost exclusively by individuals from low-income groups. They are therefore very close to the daily lives of inhabitants in low-income communities.

Despite their obvious contributions to the livelihood and transport needs of the urban poor, informal transport modes are oftentimes not duly accounted for in transport planning in Asian cities; in their rush to become modern, many cities have been attracted to high technology solutions. The experience of Jakarta's transport modernization policy is pertinent. It calls for the replacement of low-technology, secondary systems (*becak* and *bemo*) with one of stage-buses and minibuses. What is more, this policy is held as a model for other Indonesian cities to emulate.

### *Water*

Of all the basic needs, water is undeniably the most essential to individual health and family welfare in any community. Yet it is one commodity that people are least able to provide for themselves. Many urban poor also lack the information to minimize the effects of the unsanitary conditions they live in. Polluted water is known to have debilitating effects on the health of individuals; in the worst situation it

can kill. Every year millions of children in the world die of drinking polluted water. In India alone, nearly 20,000 babies die during the first year of their birth because of water-related diseases.

In most Asian cities, water supply systems were originally installed to serve industrial needs and higher-income residential areas. Additional investment has usually been devoted to expanding or improving the original system, with little or no provision for extending the system to serve the needs of squatter settlements. In Manila, for example, two million inhabitants were without access to safe water in 1978. Similarly in Iloilo and Bacolod, smaller cities in the Philippines, less than 50 per cent of the population were served either by house connections or standpipes in 1981.

Table 2 indicates widely varying country situations in urban water supply and piped water provision to individual households. A higher level of availability is positively correlated with a higher level of economic development and vice versa. In Nepal, household water supply in urban areas was almost non-existent in 1970 but the general urban situation improved markedly by 1980. Within low-income communities, however, it is not usual for water taps to be installed on individual houses. Many cities in Asia suffer from irregularity in supply resulting from low water pressure and leakage. Leak detection and repair may be regarded as some of the most cost-effective conservation measures for urban suppliers to undertake, particularly when the water system is old and poorly maintained. In many cities of Asia and other developing regions, as much as a quarter to half of the water supply seeps through broken pipes and other faults in the distribution network. This represents water "unaccounted for," unable to reach billable customers.

Generally speaking, the water supply situation is far more serious in squatter areas which, because of their tenurial irregularities, have never been able to convince municipal authorities to extend water supply networks to them. To provide for minimum basic needs, it is common for standpipes to be installed to serve a number of families. When many families compete for a limited supply of water, it is a daily chore to procure enough water for family needs. This arduous task frequently falls on the shoulders of women and children. With a restricted water supply through public standpipes, water consumption on a per capita basis rarely

**Table 2:** Community Water Supply and Sanitation Facilities in the Urban Areas of Developing Asian Countries

Country	Percentage of Urban Population Served by Water Supply		Percentage of Households with Water Connections		Percentage of Urban Population Served by Sanitation Systems
	1970	1980	1970	1980	1980
Bangladesh	40	26	16	—	21
Burma	37	38	7	—	38
India	56	77	39	—	27
Indonesia	35	35	23	—	29
Malaysia	91	90	72	90	100
Nepal	59	83	2	—	16
Pakistan	76	72	34	30	42
Philippines	65	65	55	53	81
Rep. of Korea	86	86	84	86	100
Singapore	74	100	74	100	80
Sri Lanka	67	65	36	—	80
Thailand	60	65	52	65	64

Source: UNCHS. *Global Report on Human Settlements*. Nairobi, 1987. Abstracted from Tables 17 and 18.

exceeds 40 to 50 liters in most squatter areas. In such poorly provided communities where standpipe water supply is insufficient to meet household needs, enterprising individuals often take up the business of vending water in containers at prices many times those charged by public authorities. The ratio of the price of water supplied by a private water vendor to the price charged by a public utility in the early 1980s was up to 25:1 in Dhaka, Bangladesh and 60:1 in Surabaya, Indonesia. The vendors themselves also obtain their water from the standpipes but they have a more organized way of gaining access to the limited supply of water which they, in turn, sell to individual consumers for a price. Consequently, the poor have to pay dearly for an essential service using funds which they would otherwise save for other family needs. The overall effect reduces their discretionary income and increases economic hardship.

### *Sanitation*

Water supply and sanitation go hand-in-hand in the environmental hygiene of any habitation. The majority of the population of most Asian cities lack sewerage service or other safe sanitation (see Table 2). Hygienic disposal of human excreta remains one of most difficult problems confronting slums and squatter settlements in Asian countries. Inadequate attention and resource allocation to deal with the problem has wider health and environmental implications and directly affects the personal and economic welfare of the residents in the poorly serviced locations.

Waterborne sewerage, however, is extremely expensive despite its many advantages and convenience. In most cities of Asia, such a cost-intensive system is only partially developed, serving primarily higher-income areas. In Manila, for example, only about 12 per cent of 5 million or more inhabitants are served by the sewerage system. Part of the system was constructed in 1909 for 450,000 users with additions to the system in the early 1950s to serve another 130,000 people. The rest of the inhabitants rely on a range of technologies, with the septic tank being an important method of disposal for many households. Unfortunately, septic tank effluents are allowed to flow into street drains and eventually into the Pasig River and its tributaries and canals, contributing to water pollution (Ramana, 1980). The public waterways of many cities in Asia are similarly used.

A survey of squatter settlements brought the gravity of sanitation problems to the fore. It revealed that in half of the settlements under study, a large proportion of the inhabitants did not have access to any toilet facilities at all, not even public or shared toilets. In the surveyed settlements of Sabarmati Riverbank in Ahmedabad, there was absolutely no toilet facility of any kind (UNCHS, 1982). When faced with such lack of facilities, inhabitants are driven to their own devices, such as using streams, canals and open lands as toilets or carrying wrapped wastes to dumping grounds. Asians widely use bucket latrines and collected excreta is transported and dumped on the periphery of settlements or in the nearest water course or refuse site. Unfortunately, all these ways of disposing human waste create health and environmental hazards.

Planners, bureaucrats and sanitation engineers even now are more disposed towards the conventional sewerage system though this is an unrealistic and uninformed view. Even engineers are not fully aware of the range of sanitation technologies that have been applied with success and effectiveness in other countries. For low-cost alternatives, one may cite pour-flush toilet, pit latrine, communal toilet, low-cost septic tank and composting toilet. The range of sanitation technologies varies greatly in cost. Linn (1983) estimated that it would cost 5 per cent of a typical poor household's income over five years to finance the low-cost alternatives whereas high-cost systems would require 50 per cent of the same income over 20 years.

### *Solid Waste Disposal*

Clearly, one of the urgent tasks in improving the environmental conditions of poor urban areas in Asia is the search for low-cost technologies that can reduce the transmission of excreta-related diseases. The choice of appropriate sanitation technologies is dependent on many factors, including affordability, information, institutional support, personnel and cultural acceptance. An appropriate technology may be defined as one that provides people with a socially and environmentally acceptable level of service at the most economical cost. As it is easier to change technologies than it is to change behavior, the target population must be involved as early as possible in the selection of technologies. Community participation will ensure not only a culturally acceptable choice, but is likely to be successful in implementation, maintenance and cost recovery.

As societies modernize and industrialize, the amount of solid waste generated increases. Residents of Manila throw away 2.5 times their weight in garbage each year. Garbage generation rates among cities are positively correlated with their level of industrialization and income levels, as the following set of per capita waste generation rates of Asian cities show: Singapore (0.87 kg per day), Hong Kong (0.85), Lahore (0.60), Bandung (0.55), Calcutta (0.51) and Manila (0.50) (Pollock, 1987).

Municipal governments often approach the waste management

needs of low-income urban settlements by offering the same disposal system for both human and other solid wastes. It is not unusual that inhabitants dump their faeces together with garbage, thus increasing the danger to health. In developing countries as a whole, an estimated 30 to 50 per cent of urban solid wastes are uncollected. Such wastes are found in drains, waterways and open land, providing a breeding ground for diseases vectors. Few municipalities bother to estimate the health and economic costs of failing to collect, process and recycle solid waste.

Poor people in Asian cities know only too well that garbage can be a valuable resource from which recovered components such as metals, glass containers, paper and plastic are recyclable for profit. Scavenging, with participants coming primarily from low-income groups, is a well-established activity. In Bangkok, collection crews spend up to 40 per cent of their time on service routes recovering and sorting paper, bottles, cans, and plastics. Earnings from the recycled materials reportedly equal their official salaries. For similar reasons, collection crews in Manila bring along an extra unpaid family member solely for the purpose of sorting (Pollock, 1987). Likewise, families scavenging materials from refuse dumps in Karachi are reported to earn in three days as much as the minimum wage in Pakistan for one month. Even in relatively affluent Japan and Republic of Korea, there is a thriving paper recycling industry, for without substantial forests available for pulp wood harvesting, the "fibre poor" countries have been forced by necessity and high price to conserve waste paper. The Republic of Korea produces half of its paper from waste paper. China, India, Philippines and Thailand have been identified as likely large markets for recyclable paper (Chandler, 1983).

The potential for recycling aside, the major problems related to garbage collection may be traced to the lack of functional management, institutional and financial systems to support the equipment and facilities required for the service: equipment meant to service better-off urban areas is not efficiently utilized, workers are loosely supervised and vehicles are poorly maintained. The problem is acute in low-income areas where modern technologies cannot reach. Furthermore, certain traditional attitudes towards the poor and even blatant discrimination result in neglect of their settlements.

In Asian cities, slum dwellers often pay coolies to carry garbage to

the nearest collection points served by municipal services. One way of improving the present service for the urban poor is for local governments to use labor-intensive methods that would permit the service to reach zones of limited accessibility. Where mechanized vehicles prove to be ill-suited to local conditions, primitive collection methods may be contemplated. In India, wheelbarrows and bullock carts are commonly used. In Thailand, hand-carried baskets or two-wheeled dollies with baskets are used.

As a general guideline, every local government should evolve its own waste-management system which is compatible with the quantity and nature of wastes, level of income, equipment requirements and maintenance capacities. In this respect, the recent experience in waste management in Chinese cities is illuminating. A survey of 289 Chinese cities reported that 73.6 million tons of garbage and 73 million tons of nightsoil were generated in one year. Urban sanitation departments handled only about 70 per cent of the total amount of urban garbage and 40 per cent of nightsoil. About 26 million tons of garbage and 15.5 million tons of nightsoil were used as fertilizer by farmers. The remainder was either left in the cities or discharged into public sewerage systems or rivers, contributing to environmental pollution (Zhang, et al., 1989). In the same vein, Whitney (1988) has observed that the traditional symbiosis of town and country, in which the city's wastes became the farming hinterland's resources, has already broken down. The invisible, internalized waste economy of the past has become externalized: highly visible dump sites ring all large Chinese cities. Municipal governments in China appear to be following the example of the West by giving up their widely lauded and ancient system of urban-rural waste recycling for the environmentally costly methods of garbage incineration or sanitary landfill. While other Asian cities could have learned practical lessons from the Chinese traditional ways of urban waste management, it is ironic that the Chinese planners themselves have turned outside their country for inspiration.

### *Electricity and Public Lighting*

On average, developing countries spend one quarter of their public

capital investment or up to 2 per cent of their gross national product on power projects to generate electricity. Many of them have satisfactory national or regional distribution systems of power, with the greatest focus in urban areas. Between 90 and 95 per cent of electricity investments in these countries goes to providing power to large cities and industries. In the period 1960-1980 developing countries increased the use of electricity as much as six times, but the annual per capita electricity use is still a fraction of that used in developed countries. Although rural Asia is much worse off in terms of electricity supply, even Asian cities, in particular low-income areas within them, suffer from an inadequate supply.

However, a recent Philippine study of low-income communities in Manila, Cebu, and Davao, the three largest cities (Aquino, 1983), showed that 78.4 per cent of the surveyed households used electricity, whereas in 1970 only 60 per cent of the urban population had access to power. By 1983, 61.6 per cent of the households had direct electricity supply, 16.8 per cent had indirect supply or through connections with another household's electric meter, and 20 per cent had no electricity. The percentage of households having no electricity supply at all varied sharply among the cities: Manila (5%), Cebu (32.5) and Davao (29.7), reflecting the superior supply situation in Manila. Another finding of the study is that households without access to power supply turn to kerosene, wood and charcoal for their power supply. Even some households which have electricity still use these materials in order to reduce their power consumption and hence electricity bills.

The use of electricity in low-income urban communities in Asia is mostly confined to lighting and powering small appliances. Energy needs are usually satisfied in more traditional ways, such as using a dried compound of animal and other waste as cooking fuel in South Asia. Alternative power sources are by no means cheap. It has been reported that alternative sources of light are more than twice as expensive and squatters in Manila pay more for using kerosene lamps than those who have electricity (Linn, 1983).

Relative to other basic infrastructure services, electricity appears to be held in a lower priority. A systematic comparative study of infrastructure components in ten selected slum improvement programs and

projects (Angel, 1983) showed that electricity ranked fourth after water supply, roads and walkways and drainage. Similarly, in another study of 523 low-income residential communities in six Asian cities, electricity was rarely mentioned as the first priority for improvement. Nevertheless, in a study of Karachi in 1975, electricity was one of four items, along with water supply, a sewerage system and tax collection, that bore a strong relationship to the hope for tenure regularization.

If electricity supply is not critical infrastructure to low-income urban areas in Asia, public lighting is. In a study of Leveriza, a low-income settlement of 3,000 families in Manila, it was found that there were not enough street lights for safety. Insufficient public lighting surely makes the streets less safe at night; the work of the community *ronda* or volunteer watchmen becomes more difficult.

Most developing countries' electric utilities are government-owned monopolies, often with strong political connections with the power to commit large sums of money. Yet their financial and management problems are increasingly caused by the pace of recent growth (Flavin, 1986). There are also problems of forecasting demand, pricing difficulties arising from consumer ignorance, costly metering and choosing among competing modern technologies. Cost minimization and economic efficiency are overriding objectives if utilities companies have to be in a position to extend their services to the urban poor in Asia.

## Approaches to Delivering Urban Services

### *Participatory Urban Services*

One might begin by referring to two multicountry projects funded by the International Development Research Center (IDRC) of Canada. The first study, called Participatory Urban Services in Asia, involved five countries, namely, Hong Kong, Indonesia, Republic of Korea, Malaysia, and Philippines. The project was focused on the different ways the urban poor improved their physical and social environment where basic services were found to be deficient. As elsewhere in developing countries, a queuing system of some kind is at play, and for lack of political clout, interest articulation and appropriate organization, low-income com-

munities are served only after higher-income areas. Under these circumstances, the poor have organized themselves and obtained the needed services. The harnessing of community resources in participatory, or self-help and cooperative styles of participation did contribute to narrowing the gap between the demand and supply of urban services in low-income communities in these countries. The study also brought into relief the general ineffectiveness of a "service delivery" model (i.e., government-provided services) and reaffirmed the worth of experimental and innovative efforts to mobilize people's resources towards improving the urban living environment. The finding of this comparative study have been reported elsewhere (Yeung, 1985; Yeung and McGee, 1986). It suffices here to mention a few of the common themes.

First, a critical question pertains to the geographical and demographic unit for functional efficiency with which participatory urban services might be organized. Is there a minimum threshold size? In Indonesia and the Philippines, the lowest administrative units, namely the *kelurahan* and the *barangay*, were found to be convenient building blocks for extending or organizing urban services because they possess an effective leadership structure. Second, the study found a positive relationship between strong leadership and successful delivery. Leadership structures are especially well-developed in the *barangay* in the Philippines, which appears to be a more effective system than the one prevailing in the Indonesian *kampungs* in which leadership is centralized in the *lurah*. The *lurah*, an appointed person, takes all key decisions in implementing service programs and, as such, is not entirely effective in delivering services to his community. Third, a mismatch between residents' needs and government program goals was found in most of the countries. In Penang, where government programs had been slow to react to the needs and problems of young workers, they turned to organizations which were far more successful in identifying the activities and meeting the needs for community participation. Ideally, information should flow freely among — individual, household, community and state — so that strategies can be adopted to meet the socio-economic needs of each urban community.

### *Poverty-Redressal Programs*

The second comparative project, representing the concerted action of national and city governments, is concerned with a whole range of strategies aimed at poverty-redressal in general rather than urban services *per se*. This line of action rests on the notion of a direct attack on poverty to improve the lot of the urban poor. The study was comparative in a loose sense as undertaken at different times and without a strictly comparative framework. It covered the Republic of Korea, Malaysia and Philippines (Yeung, 1988). The main conclusions may be useful to the seminar. First, the degree of awareness among the citizens in poverty-redressal programs and their utilization rates are closely linked. Therefore, the need to increase public awareness is urgent. Second, the problem of insufficient funding for the program is a serious one, reflecting the country's and the city's priority in economic growth or other social programs. It is thus necessary to prioritize services and target groups in a situation of limited resources. Third, functional duplication of efforts is a general problem but one that especially bedeviled Manila's numerous programs. This calls for a comprehensive approach with built-in monitoring and evaluation to avoid duplication, to maximize efficiency and to reach the target population. Finally, given the generally low educational levels of the poor, the project should be designed and simplified to be easily understood by them.

### *Settlement Upgrading Programs*

Complementing sites-and-services projects that involve the preparation of previously unserved new plots for housing low-income groups, Asian countries have, over the past two decades, built up a store of rich experience in upgrading slum and squatter settlements. Even a cursory examination of some of these programs would highlight their country-specific strengths and weaknesses. With the distinction of being the largest settlement upgrading program in the world, the Kampung Improvement Program (KIP) in Indonesia started in 1969 as an indigenous initiative to improve the worst living conditions in Jakarta but has flowered into a gigantic multilateral program with substantial support from assistance agencies such as the World Bank and the Asian Develop-

ment Bank. By the Third Plan (1980-1984), KIP had already expanded to cover 200 cities, including many medium- and small-sized cities and benefited 3.5 million inhabitants. In the Fourth Plan (1985-1989) period, the program will reach a total of 398 cities. KIP, adopting a "public works" physical infrastructure approach to settlement upgrading, is essentially an environmental program not a poverty alleviation program. In fact, an obvious weakness of KIP is its almost total neglect of the social needs of the inhabitants, leaving it to organization like UNICEF which developed an Urban Kampung Services Program for delivering social services in low-income *kampung*s through community participation. The UNICEF program covered during the period 1979-1984 four cities, namely Cirebon, Yogyakarta, Surabaya and Ujung Pandang. Land issues are not touched in the upgrading process. Although a recent study on KIP in Bandung reported a new strategy of cost recovery through the property tax, service costs are generally not recovered from the beneficiaries. In this manner, the program has reached a huge number of poorly serviced urban communities across the country within a relatively short period (Devas, 1981; Soegijoko, 1985). It should be noted, however, that KIP constituted in the period 1984-1989 less than 10 per cent of the total development expenditures on the public works subsector, with water supply and roads occupying 35.4 and 30.7 per cent, respectively, as the largest spenders.

In Thailand, the Slum Improvement Program is implemented by the National Housing Authority. Some 26,000 dwelling units were included in the program during the 1978-1982 period. Experience to date points to problems in land acquisition, cooperation from slum dwellers and the question of standards and physical design. The King Petch Project in Bangkok may be cited as a typical one, with half of the total costs derived from a World Bank loan to the Thai Government and with equal attention being devoted to physical and socio-economic conditions, both in need of rehabilitation. The project, in a well-established area in central Bangkok, improves among others, the community organizations of the inhabitants. Overall, the experience in King Petch mirrors a process that has been in progress in many other slum areas in Bangkok. By varying degrees, the program is being extended to other cities in Thailand and in concert with other concurrent efforts, has been able to reach more of the poor whose



housing conditions are in great need of improvement. Within Metro Manila, the National Housing Authority (NHA) had implemented a slum improvement program known as the Zonal Improvement Program (ZIP), designed to provide land tenure and services to over 1.8 million people in 300 depressed areas over 12 years. It is a "total" approach to settlement upgrading based on the eleven basic needs approach announced in 1979. Complementing the ZIP are two upgrading programs called the Metro Manila Infrastructure Utilities and Engineering Program (MINUTE) and the Program for Removing Sewerage from Streets (PROGRESS), designed by the Ministry of Public Works as a "network" approach to reinforce the "area" approach of ZIP (Taylor and Williams, 1982).

In India, the substantial improvement in living conditions of three million people who live in the *bustees* owes much to the urban reforms since 1972. In the new relationship between the state and the *bustees*, the former has learned to intervene and use its power to ensure that the *bustee* dwellers are protected from the unfair property control of the *Thika* tenants and private landlords. Calcutta is no longer gripped by an air of desperation about its *bustees* and basic utilities. It has upgraded environmental conditions in large tracts of private rental housing through redistributive public finance (Pugh, 1989). In other Indian cities, it has been reported that the key issues in shelter policy (based on experience in settlement upgrading in Delhi, Chandigarh, Ahmedabad and Hyderabad) include program content and coverage, the informal economy, affordability, security of tenure and beneficiary participation (Datta, 1987).

#### *Multifaceted, Comprehensive Approach*

During the past decade, Kuala Lumpur has evolved an integrated, multi-dimensional approach to upgrading squatter settlements that is worth recording. The squatter problem began to attract public attention since the 1960s as the squatter population grew rapidly. Between 1974 and 1980, the squatter population grew at 9.7 per cent per year and, in 1982, reached a total of 243,200, occupying 7.3 per cent of the total city area in 177 areas. In 1979, the comprehensive Nadi (meaning "pulse" in Bahasa Malaya) Program was created based upon the previous efforts of the Sang Kancil (named after the clever mousedeer in popular children's

stories in Malaysia) anti-poverty project funded by UNICEF and the expanded National Family Planning Board program which combined family planning, with a parasitic control program for children. As an integrated program, Nadi was to involve a multiagency delivery of services and resource utilization, group and area specificity, a sharp focus on the family as the unit of development and the direct participation of beneficiary groups. Eighteen agencies have been involved in delivering services which can be grouped into community-based operations with 173 different tasks (Diaz, 1982). The bulk of the funding comes from the Malaysian Government with technical support from UNICEF in the early stages. The main services targeted for provision under the Nadi Program include comprehensive health services, basic infrastructure services and community and family development activities. In actual practice, the services that have received the lion's share in funding encompass electricity supply, parasitic control, provision of standpipes and the Sang Kancil project. The latter was an innovation in that squatter participation was first used in project design, thereby enhancing official awareness of the multifaceted needs of the poor. Lim (1985 and 1988) has fully documented and analyzed the Nadi Program and emphasized the need to develop administrative structures and capability to implement new strategies to deliver services to the poor. Appropriate structures, in turn, require prior identification of problems and adjustment to changing socio-economic conditions and priorities. The program has not achieved a snowballing effect in Kuala Lumpur, but the experience to date has certainly been positive. The reason for the relatively limited impact of the Nadi Program is that it was not designed as a self-contained program of any particular agency, but was dependent upon contributions and cooperation from a multitude of existing agencies. Thus the Ministry of Federal Territory under which a Steering Committee is set up to implement the program has not earmarked resources to expand its coverage.

#### *Integrated Social Services Program*

In the rapidly industrializing Republic of Korea, a new program with an accent on social rather than physical services has been developed in Bongchun dong, one of the largest squatter areas located in southern

Seoul. The idea of an integrated services program for the poor in the urban district stemmed from a series of workshops organized by UNICEF in connection with its contribution to the nation's Fifth Five-Year Development Plan (1982-1986). The main objective of the project is to foster the development potential of the urban district by providing a package of services with the cooperation of the government and private organizations. In this sense, the program depends on a mixture of "top-down" and "bottom-up" approaches. A measure of success has been reported because of the high motivation and the professionalism of the non-governmental organization (NGO) staff that has accounted for the positive response from the residents. Three types of community organizations, viz. government-backed popular organizations, the community development committee and project organizations have been instrumental in building a consensus among the beneficiaries. The experimental project is likely to benefit the community. However, there is no comprehensive, long-range plan for providing services for the urban poor (Whang, 1988).

#### *Government-Encouraged Community Development*

Another variant of the community participation approach to delivering urban services is the case of Community Development Councils established in the slums and shanty gardens of Colombo during the last decade. In 1978, given the government's determination to improve social development and physical infrastructure within the urban areas, the Slum and Shanty Development Unit was established under the Ministry of Local Government's Urban Development Authority. In the following year, the Environmental Health and Community Development Project was launched with UNICEF's assistance in the slums and shanties of Colombo. A three-tier Community Development Council system was developed, drawing representatives from the nuclear level in the slum gardens, from the district level and from the city level. The 1979-1983 five-year program involved recruiting and training a new cadre of fieldworkers called Health Wardens who would require knowledge and experience in community development, primary health care, nutrition education and environmental sanitation. Under their mobilization, 291

Community Development Councils had been established by 1981, covering 15 per cent of the Colombo slum and shanty population. By 1981, 723 latrines, 340 bathrooms and 543 standpipes in 285 shanty gardens had been improved. Clearly, the infrastructural improvements were impressive. So satisfied were the municipal authorities with the progress that they took over the payment of the Warden's salaries in full after the initial two-year commitment by UNICEF came to an end and the government planned to extend the new modality of amenity upgrading to other cities in Sri Lanka (Cassim, et al., 1982). A similar and more recent program adopted by the government but highly dependent on community efforts was the successful Million Houses Program covering the period 1983-1989. The program involved different types of slums and squatter settlements, utilizing the methodologies of upgrading, minimal relocation, sites and services, planned plots and dissemination of information. Financing was provided for both infrastructure and house improvement. The program relied heavily on community participation in action planning, on-site blocking of land, contract system, maintenance of infrastructure, enterprise programs and training leaders. So well received was this program that the 1.5 Million Houses Program is being implemented for the period 1990 to 1995, following the outline and themes of the previous program. Another project that evolved on a similar mode of government-community cooperation is the Urban Community Development Project in Hyderabad, India. Although initiated by a department of the municipal government, the project was aimed at improving housing conditions, child and mother care services, pre-school education and income augmentation of the urban poor. With the beginnings in a small locality in Hyderabad, the project has been extended to the entire city over two decades. The success of the project has accounted for sizeable investment funds being provided by national and international sources for its replication in other Indian cities.

#### *Aided Self-Help Approaches*

A multitude of self-help approaches with the initial push provided by NGOs have been tried out in Asian countries with the aim of improving basic urban services. A brief reference to some of the projects will

provide an idea of their diversity, innovativeness and resourcefulness.

The Building Together Project in Bangkok is an outstanding example of erecting a new neighborhood on the basis of mutual assistance. The approach, with professional assistance available on a voluntary and consultative basis, required residents to purchase their own land, plan the site, finance the project and eventually build the houses. The impact on the residents in question was so favorable that the project attracted funding and support by aid assistance bodies from other countries. In Delhi, a Project Rehabilitation providing shelter for flood victims in Jahangirpuri has been the responsibility of the Delhi Catholic Archdiocese in project design, implementation, monitoring and coordination. The project has been judged to be successful for it succeeded in meeting the requirements of the target group. In addition to shelter, other components, such as self-employment schemes, adult education and legal aid have been introduced. Similar success was attained by the Ahmedabad Study Action Group (ASAG), an NGO which took immediate action in 1973, when 23 settlements involving 3,000 households were affected by floods at Vasna, Ahmedabad where the river Sabarmati overflowed. An Integrated Urban Development Project (IUDP) was set up to implement a comprehensive development project which had taken into account the physical and socio-economic needs of the flood victims. The IUDP is notable for its people-based approach and an action-research methodology. In the Bogun Jahri area of Seoul, a colony of 170 houses was constructed in five months by evicted squatters. The striking feature of this building program was the manner in which the people were motivated and action initiated for community development and improvement. The leadership in the project came from two individuals, a priest and a university student who lived in Seoul's largest slum for more than two years prior to eviction notices being served. The project serves to underline the importance of personal relationships in effective community participation. On a larger scale is the Orangi Pilot Project that started in 1980 as an NGO to improve the sanitation of the Orangi settlement in Karachi that has sprung, essentially unplanned, over an area of 5,000 acres since 1965. Through social organization and technical extension, the community has successfully installed sanitary latrines in the houses, underground sewerage in the lanes and secondary or collector

drains. The improvements in sanitation and general environmental conditions are considerable. In Manila, Freedom to Build is an NGO that distinguishes itself by the way it organizes itself and facilitates people to build their own houses. It started off in the mid-1970s with a project in the Dasmarinas Resettlement Project, a 234 ha site, 34 km outside Manila, where approximately 4,000 evicted squatters had been relocated since 1974. Freedom to Build ran a building supply store and provided other assistance for settlers to build their homes. In Hong Kong, the fact that boat dwellers eventually had their rehousing needs recognized and upgraded to that of land squatters in 1982 owed much to the efforts of the Society for Community Organization that began in 1970 as an informal group. The Society initiated a project in 1971 which aimed at helping to resettle boat dwellers in public housing flats after the plight of Yaumatei boat dwellers became a public issue in the territory. Finally, Kampung Sawah was one of two slums affected in 1982 by the construction of a highway in West Jakarta. Residents received assistance from the Panca Bakti, a Jakarta-based NGO, to help them relocate to Cikumpa Depok and Sidomukti Depok, to build anew there and to establish a cooperative once the families were resettled. Although the relocated settlement in Depok would mean increased transport costs for some families, it was an opportunity to start life with proper land titles, a task that would be beyond the organizational capacity of many households and hardly possible without the assistance of the NGO.

It is clear from the cases cited above that the commonality of these projects is their organization and management expertise provided by an NGO which has been successful in rallying inhabitants to a common goal. Translation of this common goal into reality requires consummate skills, relevant experience and expert knowledge about ways of dealing with the bureaucracy, all of which the inhabitants lack. The NGO not only provides the initial spark of interest in crystallizing a critical problem but sees the project to its completion. Essentially, the people themselves would do the work but the NGO provides a vital institutional framework with which to reach a common goal. Recent experience speaks well for this approach in Asia.

## Lessons Learned

Having highlighted different approaches to delivering urban services in Asia, it would serve a useful purpose to distill generalizable lessons from them. Again, the task can only be selective without any pretension of comprehensiveness.

### *Institutional Arrangements*

As demands for basic services become more complex and strident with more people and land area to serve, city governments are experimenting with a range of institutional arrangements in their endeavor to improve delivery. Cheema (1988) has discerned three phases of institutional evolution. At first, most Asian cities attempted to design, finance and manage infrastructure services on a sectoral basis. Large-scale projects in housing, water, sanitation and the like were the responsibility of sectoral authorities independent of municipal governments. They succeeded in expanding urban infrastructure and services but suffered from at least three deficiencies: (i) The short-term sectoral planning approach implemented through semi-autonomous government agencies resulted in inadequate attention being paid to the potential of long-term impact of government intervention in service provision. (ii) The approach had the disadvantage of expanding the role of appointed (rather than elected) officials in the management of the city. (iii) With the increasing sophistication and development of urban services, the authorities concerned were not able to implement their programs with optimal utilization of resources or effective coordination with other agencies. These programs could not effectively reach the urban poor. The limitation of sectoral responses led to the second phase in which metropolitan-wide authorities were in vogue in the 1960s and 1970s. The Calcutta Metropolitan Planning Organization (1961) and the subsequent Calcutta Metropolitan Development Authority, the Karachi Development Authority (1962), the Bombay Regional Development Authority, and the Metro-Manila Commission (1971) were all born with the objective of formulating, financing, coordinating, and supervising the implementation of multisectoral projects through sectoral and local authorities. These authorities were

initially involved only in coordination and supervision of program activities but gradually assumed the functions of sectoral agencies and local governments themselves prodded by international and donor agencies who were interested in speedy implementation of foreign-funded projects. As a result, these command-type authorities led to the further centralization of powers. Multisectoral planning and programming functions were also relatively neglected. The third type of institutional arrangement centered on the creation of metropolitan-wide government with special provincial powers and status. The Bangkok Metropolitan Administration (1972) and the Special Capital Territory of Jakarta (1964) are examples of this genre, with the power to plan and coordinate activities in contiguous areas. For Asian cities, six types of metropolitan management structures may be distinguished: centrally controlled (Shanghai, Beijing); special province (Bangkok, Jakarta); two-tier system (Manila, Tokyo); development authority (Delhi, Bombay, Karachi, Colombo); single-tier city/metropolitan government (Kuala Lumpur, Surabaya); and inter-municipality cooperation (Calcutta).

### *Failure of Top-Down Planning*

At great pain and cost, it has now dawned on most Asian municipalities that a centrist, top-down approach to service delivery without support from other actors is unsustainable. The futility of the centralized government to use delivery orientation was poignantly manifested in Seoul's attempt to resettle, in 1973, 76,650 squatter families to satellite Sunnam New Town. Nor was the project in Seoul to enhance the welfare of slum dwellers through urban renewal any more successful. As much as 43 per cent of the new houses were occupied by people not originally in the renewal area as the target households were not able to afford the minimum purchase price. Both projects failed because their target was not on urban poverty, not even the proper management of services to the poor, but simply the eradication of illegal housing units. The projects were designed primarily to satisfy aesthetic considerations and physical planning standards, with the service needs of the disadvantaged groups relegated to a secondary level of consideration (Whang, 1985).

### *Need for Community Participation*

Many of the projects and approaches to improving the access of the poor to urban services have demonstrated the critical role played by beneficiaries themselves if any project is to succeed. Locally led and energized initiatives are particularly essential in the initial phase, when priorities are set, as well as at the implementation stage. Community participation may be effected through official support (such as Community Development Councils in Colombo), the efforts of an NGO (the Panca Bakti in relocation of Kampung Sawah in Jakarta), or by the inhabitants themselves (urban Saemaul Undong in Seoul). In every case, it is necessary for effective project implementation to elicit positive responses from the affected population to achieve mobilization, replication and self-reliance. It may be noted that while the tradition of community participation is strong in rural Asia in satisfying the basic needs of the rural population, urban dwellers have only recently evolved people-based mechanisms to supplement inadequacy in infrastructure provision by the government. In Indonesia and Malaysia, the age-old principle of *gotong-royong* (self-help) has been extended to urban *kampungs*. Likewise, in South Korea and Sri Lanka, the movements of Saemaul Undong and Sarvodaya have respectively found the cities in those countries fertile ground in which to further the notion of common objectives such as the improvement of basic living conditions.

### *Towards Greater Integration*

It is more widely recognized than before that there is a higher likelihood of success in improving urban infrastructure services to the poor by greater integration in two ways. Although sectoral considerations are important in some circumstances, the trend has been for many municipalities to design integrated infrastructure packages. At the same time, planners and decision-makers have realized that for improved urban basic services planning, implementation and monitoring among different levels of implementers must be better coordinated, streamlined and, to a degree, integrated. Integration implies better coordination and planning between levels and sectors but not necessarily greater control from central authorities.

### *International Aid Agencies as Partners*

In many large-scale integrated projects, the assistance of international aid agencies has been crucial in design, concept, funding, training and implementation. The dependence on outside technical assistance is understandably obvious in countries that have not achieved rapid industrial and economic progress. Assistance programs of any import on urban development in developing countries took place only in the 1960s when the United Nations system of agencies was among the early ones to respond to the newly identified needs. Most of the assistance was in the form of technical assistance (with some training), pre-investment studies and capital assistance. Often, however, authorities in the aided countries have chosen high-cost urban technologies under the mistaken impression that this is the best way to use the capital assistance available. The availability of capital assistance among these countries may in the beginning time had an inhibitive effect on the development of less expensive infrastructure, notably in sanitation, housing and transport. Since the early 1970s, however, the thrust on the alleviation of urban poverty has characterized many of the urban assistance programs by the agencies. They have developed their own style and priority activities in attempting to improve the material welfare and living conditions of the urban poor in developing countries. It can safely be said that, each in its own way, the multilateral development agencies have provided much-welcomed and well-intentioned assistance to work in partnership with Asian countries to alleviate the plight of the urban poor.

### *Strengthening Local Governments*

Dependence on foreign assistance must proceed hand-in-hand with measures to strengthen local government in the long-run interests of the countries themselves. In this respect, recent progress in several Asian countries has been reported by Wegelin (1989). In India, conditional soft loans were made available by the central government to state governments in the Integrated Urban Development Program between 1974 and 1979. The loan provision took the form of matching funds for a specified investment package with the balance coming from the state and local governments. The program, designed for cities with a population of

300,000 and above, was supplemented by the Integrated Development of Small and Medium Towns (IDSMT) in 1979, in an attempt to extend the facility to other cities. In Indonesia, a nationwide approach towards delivering urban services called Integrated Urban Infrastructure Development Program (UIDP) was mounted in 1985, in which responsibility for planning, programming and implementation of urban services would be lodged at the local level and various components of infrastructure provision would be integrated. The program has been viewed as a bold departure from the hitherto top-down approach in favour of bottom-up planning for 300 local governments in 27 provinces. In the Philippines, the Program for Essential Municipal Infrastructure, Utilities, Maintenance and Engineering Development (PREMIUMED) was launched in 1984 to cover 16 regional centers outside Metro Manila as a strategy to strengthen local governments. Likewise, the Sri Lankan government embarked, in 1985, on an ambitious program to improve municipal management in its 51 Urban Local Authorities with the aim of decentralization and strengthening local governments. Also, Thailand's Regional Cities Development Program that was launched in 1985 for four major municipalities, has recently been extended to cover several additional urban centers with the implementation of urban infrastructure as a high priority.

These programs reflect a growing realization of the positive economic functions cities can fulfill through large-scale investments in infrastructure, urban services and shelter improvement. These new functions can be financed out of revenues generated in the cities themselves provided local urban management and institutional capabilities are drastically improved. The common approach all the cited programs adopt is that cities should reduce their dependency on national fiscal resources through increased generation of local revenues to finance more cost-effective urban infrastructure and services development. All the programs rely heavily on technical assistance including training. Also, the programs attempt to break out of an exclusively "top-down" policy and planning environment by strengthening the "bottom-up" approach to urban services delivery within certain set rules, implying a changing balance of power and access to funds between different levels of government. These innovative improvement strategies are too new to be as-

sessed for their efficacy.

### *Striving for a Consensus*

Angel (1983) has astutely maintained that only a low level of consensus exists at present on the goals and methodology of effecting infrastructure improvement in low-income communities in Asian cities. The different perceptions of house owners, environmental engineers, community builders, politicians, international funders and the people are grounded in divergent self interests and preferences, albeit congruent objectives. Continued dialogue and articulation of any party's views would help in narrowing the differences and would be in the interest of the betterment of basic services for the urban poor.

### *Seeking Tenurial Security*

One of the issues on which the aforesaid participants of infrastructure upgrading in Asian cities differ sharply is the extent to which squatters should be recognized with respect to the land they occupy. Land is a commodity to which the urban poor have great difficulty in obtaining and securing. Many municipal governments hesitate to improve infrastructure services in low-income settlements with uncertain tenurial status as any such effort might be interpreted as tacit approval of "squatter's right" and give the residents a strong claim to security of tenure. In any event, it is almost universally true that where tenurial rights are regularized, the improvements in the living environment, especially individual shelters, are considerable. This was abundantly demonstrated in the Tondo Fore-shore Project in Manila. A 1981 evaluation showed that about 97.5 per cent of the households had improved their dwellings, with 12.5 per cent building entirely new structures. Also, in Bhopal, India, slum clearance and improvement programs have been implemented since 1957 but it was not before 1984 that legal tenure was granted to households in existing squatter settlements. Shelter consolidation by the poor has been in progress from the beginning, pointing to the fact that it is the improvement in perceived tenurial security rather than the legality of tenure itself that can induce infrastructure improvement (Mitra, 1988).

### *Affordability and Cost Recovery*

Affordability and cost recovery are two closely related aspects of urban service provision that have intimate links to the questions of access by the poor and subsidization and replicability. The ability of governments to extend urban services to a large number of people is contingent upon measures of cost recovery through community contributions, user charges, taxation, etc. The interplay of these factors is connected to the larger issues of urbanization policy, public expenditure, building standards, income levels, and the ability and willingness of different income groups to pay. In World Bank assisted shelter projects, it was discovered that many families were willing to spend up to 40 per cent of their income for shelter, not 25 per cent as originally anticipated, with substantial income transfers from extended families to help monthly payments. Many families perceived improved housing as a form of investment. This accounted for a 10 per cent increase in families offering space for rent in Tondo in 1981. Another example of an affordable and cost recoverable urban service is that of the improvement of low-cost sanitation in India where there is considerable experience in this sector. India decided to provide low-cost pour-flush latrines on a large scale in urban areas of less than 100,000 inhabitants each. Since 1979, household sanitation has been improved in towns in five states, namely, Gujarat, Tamil Nadu, Kerala, Madhya Pradesh, and Uttar Pradesh. The low-cost option has been propagated to households as an attractive investment of approximately \$150 to \$200, as distinct from the conventional piped sewerage system viewed as a public works project (*Urban Edge*, December, 1987).

### *Unrealistically High Standards*

There is an inherent conflict between attempts to maintain high physical standards and the low incomes of urban populations. Project design at standards beyond the reach of the urban poor results in their inability to pay for the economic costs of operation, maintenance, and debt service of new infrastructure services provided. Cases abound in Asian cities where settlement upgrading programs have directly caused the target group to move out simply because they could not afford the costs of new facilities.

The failure to benefit the original settlers from upgrading policy has been recorded in government housing programs in Calcutta (Pugh, 1989), in the KIP in Indonesia (Soegijoko, 1985) in an urban renewal project in Seoul (Whang, 1985) and in the Tondo Foreshore project in Manila (Laquian, 1983). Residents are known to sell their priority assignment or cannot afford the costs of living in an improved environment. The poorest of the poor have thus been eluded in the improvement process. As a result, such projects give rise to increased subsidies, distortion of market factors and failure to mobilize fully the potential of urban centers. Linn (1983) has succinctly summed up in this way: "Experience has shown over and over that where public service standards are set at levels unrealistically high in relation to the poor beneficiaries' ability and willingness to pay, most of the intended recipients of the services have generally not received any service at all." Linn's dictum is best illustrated by the experience of subway construction in Calcutta. Between 1972 and 1978, transport investments in Calcutta reached \$50 million annually, representing 48 per cent of the government's budget for infrastructure investments. The initial projected investment has multiplied by a factor of ten to \$1 billion on completion, due to escalating costs in the interim. The system will also need at least \$1 million each year to operate. Heavy investments and subsidies notwithstanding, the urban poor — the city's single largest group — cannot afford to ride the subway (Brown and Jacobson, 1987).

### *Investing in Leadership and Training*

One of the worst bottlenecks in development administration in Asian cities is the shortage of trained personnel. It has been reported in one city of four million inhabitants that there is not one qualified accountant in the entire municipal administration. The staff for planning totals 50 — from senior officers to draftsmen; perhaps five are professionals with enough training and leadership qualities (PADCO, 1976). Repeatedly, it has been shown that strong leadership and successful service delivery are positively related. Leadership may be formal or informal, elected or installed, but leaders with dynamism, adequate training and good communication skills are hard to find everywhere. Leaders must be trained,

nurtured and identified. In view of their shortage in Asian cities for the task of improving infrastructure services, it is imperative that investment in human resources be increased. The contribution of such investment to poverty alleviation will be indirect but critical in the realization of policy goals.

### *Recognizing Women's Contributions*

Urban poverty being not gender-specific, women constitute one of the most vulnerable groups, along with children, in low-income communities. This facet of urban Asia has been fully recognized by programs designed by UNICEF and, to a larger extent, by other bodies. Growing attention has been given to women's specific economic and household roles in these communities. Contributions by women in the development of low-income communities have been observed frequently. For example, female wardens are especially effective in mobilizing women's participation in preventive and curative health programs in the environmental health and community development project in slums and shanties of Colombo. Activities organized by housewives in urban kampungs in Indonesia are very successful and well attended. Such favourable perceptions of women's role in the lives of the urban poor have prompted expanded training opportunities for women. Such training models may be exemplified by a participatory program for women pavement dwellers in Calcutta, whereby women learn to resolve their problems in a non-crisis situation. On the other hand, the Self Employed Women's Association in Ahmedabad is a trade union of self-employed and poor women workers many of them illiterate. To help them stabilize and increase their incomes, a bank was formed and a cooperative society set up to develop their skills and help them in problem solving through social interaction. Recognition of the positive roles of women in economic affairs and family welfare is reflected in the planned activities of the Orangi Pilot Project in Karachi. Apart from the more visible and by far the most successful low-cost sanitation program, the project design includes women's health education and a women's work center program. The progress to date in these two components relating to women is uneven and slower than anticipated. However, the potential is certainly present

as many women have expressed interest in obtaining work from the work centers.

## **Key Policy Issues and Alternatives**

### *Financing Urban Services*

The foremost problem in most Asian cities in the provision of infrastructure services to their inhabitants is the inadequacy of funds to finance them. Per capita spending by local government tends to be higher in larger cities but at the same time they have many more services to provide than smaller cities. There is also an extensive overlap in responsibilities of local, provincial and central authorities where, not infrequently, the same services are provided by them all. Poverty makes it difficult at every level of government to raise fiscal revenue. The culmination of these prevailing conditions results directly in large sections of the region's cities being unserved or underserved, with the urban poor suffering the brunt of these deficiencies. The revenue structure of developing country cities may be divided between two components: local revenue in the form of locally raised taxes (including property tax), user charges and locally raised revenue such as license fees, penalties and stamp duties and external sources of local finance through borrowing and grants from provincial or central governments, including shared taxes. The bulk of urban finance in most Asian cities is derived from local sources, up to 70 to 80 per cent. Karachi, Jakarta, Manila and Madras relied heavily on local taxes, whereas Ahmedabad, Bombay and Seoul exhibited a more balanced distribution between local taxes and self-financing service revenues (Linn, 1981). Cities may also raise loan financing from the international capital markets although it appears that cities in India and Pakistan are permitted more flexibility in this than cities in South Korea. Given the grave problem of urban service deficits in Asian cities, there is much scope for expanding the degree of grant and share-tax financing with higher-level governments. Indeed, this is the approach taken by Bangkok which has an exceptionally narrow local fiscal base with only four taxes, viz. house and land tax, land development tax, signboard tax and animal slaughter tax coming under the



Bangkok Metropolitan Administration. Its fiscal powers are not much stronger as property, land and cars are grossly undertaxed. In 1981, the average revenue of the city government was 741 baht per person which was one-third the national average. Consequently, the central government every year contributes the lion's share of Bangkok's fiscal expenses. Financing urban services is thus basically an inter-governmental process in which international agencies have a vital role to play where domestic finance resources are unable to match needs.

### *Cost Recovery versus Subsidization*

The previous issue of the gap between perceived urban service needs and financial resources leads to the policy dilemma of cost recovery versus subsidization. Cost recovery refers not only to the financial measures for initial capital outlays but also to long-run maintenance and operating expenditures. The higher the cost recovery, the lower the drain on the public coffers. The fiscal devices for cost recovery include land pricing, taxation on land and buildings, user charges, tax and nontax revenues. If urban services are provided on a strictly cost recoverable basis, many of the urban poor would not be able to afford them. Subsidies, if however adopted as fulfilling a redistributive goal or poverty alleviation objective, can be justified. Likewise, subsidies for refuse disposal are often required because of externalities of pollution and the difficulty of controlling unauthorized dumping. Selective subsidization appears to be a prudent policy choice which is preferable to indiscriminate or heavy subsidization as both can produce inefficiency in service provision. The earlier reference to the subsidized but inefficient bus systems in some Asian cities is a somber reminder of the merit of keeping certain urban services competitive and cost-effective between the public and the private sectors. Based on the experience to date on urban service provision in developing countries, a guiding principle seems to avoid general subsidies in the design and implementation of urban development projects.

### *Shifting Policies*

Three broad types of policies may be distinguished in providing basic services to the urban poor. One is a policy based on market mechanisms

which in essence ignores the existence of low-income settlements in the belief that they are an aberration in the development process and, given time, they will disappear with economic development. The second type refers to restrictive policy which aims at reducing the size of these settlements or, where feasible, relocating them to the urban periphery. These two types of policies are largely discredited, leaving the third type, supportive policy, designed to improve and expand on present infrastructure conditions in cooperation with local residents, as the most popular and widely adopted (Rondinelli and Cheema, 1988). In this connection, it is pertinent to mention the World Bank's successful experience in employing market mechanisms in its projects to reach the urban poor. Many of these projects in policy design are an amalgam between laissez-fairism and interventionism.

### *Centralization versus Decentralization*

At the core of this dichotomous choice of urban governance are the concerns of resource mobilization, financial capability and management efficiency of the local government to deliver urban services. Traditionally, most countries in the region are characterized by a high degree of political and financial centralization to the detriment of municipal authorities which are starved of the requisite resources, power and political will to deliver basic urban services. To be sure, the magnitude of the urban problem is beyond the financial and administrative capabilities of many developing countries. More specifically, a 1977 study of 25 Asian countries submitted that even if their total savings were mobilized for the provision of urban housing and infrastructure for additional migrants, there would not be enough. For most countries in the region, though, several decades of development experience have successfully convinced politicians and planners that decentralization of authority, resources and responsibility to local governments' promises to be the emerging wisdom of development administration. The recent strategies designed to strengthen local governments in five Asian countries outlined in the previous section have built-in performance criteria at the local level to ensure the desired results. In Sri Lanka's move to improve municipal management in its urban local authorities, for example, municipalities

must have scored on selected performance improvement indicators in order to obtain government grant funds. Strengthened local governments come with increased public accountability and responsiveness. Decentralization is not, however, easy to achieve.

### *Equity versus Efficiency Goals*

It has been fashionable for arguments about urban service provision to be couched in a trade off between equity and efficiency goals. There is now accumulating evidence to attest to the compatibility between these two objectives, as the rates of return on poverty-oriented projects supported by assistance agencies like the World Bank have been shown to be not significantly different from untargeted ones. Moreover, it has been stressed that these goals can be best achieved by avoiding increased subsidies to urban services through reliance on local taxes and user charges (WDR, 1988). On a larger plane, the equity issue impinges on the urban poor in relation to other higher-income groups in the city. Biases against the disadvantaged groups in infrastructure provision, whether they relate to pricing policy, attitudinal orientation, or structural irresponsiveness, must be minimized. Within the urban poor group, also, equity is still an issue that recurs in projects having a differential impact on strata within the target population. By contrast, sites-and-services and core housing projects can be designed to achieve greater equity when affordability criteria can be enforced. Even then, such projects have yet to reach the poorest 20 per cent of the urban population.

### *Modalities of Service Delivery*

The debate on the varying effectiveness of different modalities of urban service delivery revolves around the broader issues of resource mobilization and the extent of decentralization of power to local governments. For many infrastructure services, a "service delivery" model, that is, government-provided services, is still the most important. However, in the context of the present trend calling for greater beneficiary participation, a range of approaches involving support from international organizations, semi-public or private agencies, NGOs, community self-help and so on, have evolved in many Asian cities. Generally speak-

ing, participatory, self-help, and community programs are conceived as "bottom-up" approaches that are being looked at more favorably than before by the authorities. Clearly not any one mode of service delivery is sufficient for all needs. Each has a useful role to play and a responsible and responsive government should give support to local group efforts in planning, setting norms and priorities and evaluating projects. Local groups, often poorly organized, manned and financed, need all the encouragement, support and funding governments and other bodies may be able to provide. In the end, they all contribute to make the urban habitat a better place in which to live.

### *Public versus Private Service Provision*

It has been recognized that economies of scale, externalities and the possibility of monopoly conditions under private sector provision are accepted arguments in favour of public provision of utility services in urban areas. The present regulatory framework tends to protect public agencies with established monopolies. However, for some urban services, such protection is not well placed and results in inefficiency. Transport is a case in point. In Calcutta and Bangkok, public bus companies cover only about 60 and 72 per cent of their total costs with their revenues and incur large subsidies. In dramatic contrast, private buses in the two cities which carry 75 per cent and 40 to 50 per cent of the total bus ridership in the two cities, respectively and charge the same fare as public buses are able to operate at a profit, without subsidy. Private operators are plainly more efficient than public ones and in addition contribute sizeable revenues to public coffers. The disparity in efficiency is so obvious that it has been suggested that all nationalized bus monopolies be open to private operators of buses and minibuses (Feibel and Walters, 1980). In low-cost housing, too, the role of the private sector has been well argued for in Malaysia by researchers. Official recognition of the private sector in housing provision for the poor is again reflected in the planned construction by the private sector of 374,100 low-cost dwelling units in the Fifth Malaysia Plan (1986-1990). The Malaysian example underscores the wide scope that exists for closer cooperation between the public and private sectors in delivering urban services in

Asia.

### *Supply and Demand of Urban Services*

Much of the infrastructure provision by public or quasi-public bodies is typically supply-led, with little or no direct relation to the nature and size of demand by the urban poor. One of the more effective ways of increasing access to urban services is, in fact, to promote employment generation activities in order that, with higher incomes, the disadvantaged population would create greater effective demand for basic services capable of being satisfied through a variety of mechanisms. In many Asian cities, the prevailing high levels of unemployment and under-employment and low incomes among the urban poor are translated into their inability to pay for needed urban services either directly through user charges or other methods, or indirectly through taxes. Projects designed to improve the livelihood of the urban poor may be embedded in integrated infrastructure approaches that have been reviewed previously, or may be income generation-specific, such as the Program for Investment in the Small Capital Enterprises Sector (PISCES) supported by USAID. The demand for specific urban services may also be met by financing programs such as the Community Mortgage Program in the Philippines which involves an innovative concept of low-income home financing for an undivided tract of land to be acquired by several beneficiaries through community ownership. The landless urban poor can thus secure land for house construction through the financing program administered by the National Home Mortgage Finance Corporation.

### *Formal versus Informal Sector Roles*

Asian cities, as elsewhere in the developing world, are creations of planners and politicians whose predilections are to cater to the interests of the rich and powerful. As a consequence, the regulatory framework, resource allocation and political support are everywhere in favour of the formal sector. However, the extent to which the informal sector can directly benefit the lives of the urban poor should not be neglected. In a number of urban services, such as housing improvement, transport, water

supply and public security, informal sector contributions have been observed to be low-cost and effective. For example, in many squatter settlements, an informal market exists facilitating mutual help, procurement of building materials, dissemination of information and exchange of know-how. Strong social networks in these communities are often sufficient to deter crime and where necessary, a mutual aid system of vigilante corps can be developed based on voluntary contribution of labor. Despite the rhetoric for administrative and financial decentralization and devolution, excessive regulations and restrictions still impede the activities of the informal sector. As a case in point, in Tamil Nadu, India, where it is illegal for the private sector to attempt to duplicate the successful sites-and-services projects supported by the World Bank, the private sector has simply been forced to operate "underground."

### *High versus Appropriate Technologies*

The choice of technology for urban service provision is connected with the pros and cons of the formal and informal sector roles, and the issues of affordability, cost recovery and replicability. The Calcutta Subway Project serves to underline the absurdity of pursuing a high-technology option with near disregard for the needs of the urban poor. There is thus an inviting challenge for Asian cities to seek low-cost, appropriate technologies that are not only innovative and indigenous but also, more importantly, affordable by most of the economically disadvantaged.

### *Large versus Secondary Cities*

Given the increasing concentration of population in large Asian cities and the pressure on infrastructure services, economically conscious scholars and administrators have raised the question of the relative costs of service provision in cities of different sizes. Of course, urban agglomeration goes with economies of scale but beyond a certain city size, the gain in most urban services disappears. Evidence tends to indicate that urban infrastructure services can be economically provided in cities as small as 100,000 in population and the per capita costs in providing many urban services are lower in intermediate-sized cities than in the largest metropolitan areas.

## Emerging Challenges

To conclude this paper and to facilitate discussion on likely ways of meeting the emerging challenges, a number of questions are posed in the following section.

### What do Asian cities face in terms of basic infrastructure service provision?

Asia's cities already have been confronted with deteriorating levels of basic infrastructure service provision in recent years, as supply has failed to catch up with demand. Given the trends in Asian urbanization, with growth rates remaining high and the persistence and increase of urban poverty, the challenge to planners and policymakers is to search for innovative ways of delivering at least the present level of services to larger numbers of urban dwellers within the present financial and administrative constraints. Many problems of the present system of delivery have been identified and these obstacles need to be removed. They include standards of service being unrealistically high, technology unaffordable by the inhabitants, legal framework prejudiced against the interests of the urban poor, administrative and organizational inefficiency of the delivering agencies, weak local (city) governments not having the political clout and financial ability to carry out effective programs, feeble channels of needs articulation, etc. It is clear that many city governments in Asia are engaged in an uphill battle to maintain their present inadequate levels of service provision, let alone upgrade them.

### What should be the scope of urban basic infrastructure services?

This paper has taken a rather orthodox and conventional definition of infrastructure services, including such services as land, housing, transport, water supply, and waste disposal. These are surely key services needed for the sustenance of life and the well-being of individuals and families. It has been argued, however, that if one were to take a broader basic needs approach, other services, such as food, energy, etc. could be taken into consideration in certain circumstances. Of course, all services are land-consuming and thus more difficult to provide in view of escalat-

ing and competing demands on urban land. The point to emphasize is a need for maximizing the congruence of basic urban services provided by the authorities and those that are really desired and affordable by the inhabitants. In this case, a greater sensitivity to varied demands of different income groups should be cultivated.

### Who pays for public urban services?

Financing urban services in Asia is one of the most challenging tasks for administrators and planners and one that appears most difficult to break through because of institutional rigidity, bureaucratic inertia and ingrained biases. Many Asian cities have narrow and limited revenue bases from which to finance the needed services for their populace. Jakarta and Bangkok, for example, depend heavily on their central governments for transfer payments to foot their municipal bills. Indian cities are so financially strapped that even routine maintenance of essential urban services has been reported to have suffered from neglect. The situation in slums and similar settlements has been described as appalling. If the city government cannot raise enough revenue from its inhabitants, who are themselves poor, there is every reason to question the general efficacy of the government-sponsored, or "service delivery" model of service provision, for the poor. Alternatives to the conventional models of delivery must be explored, including all shades of self-help, participatory and community modes of delivery which are proven to be much more cost-effective and meeting the needs of the population groups concerned. Even improving the established methods of service delivery through adoption of more appropriate technology, more realistic standards, and improved user charges could go some distance in lightening the financial burden of the authorities who deliver basic urban services.

### How can non-governmental organizations (NGOs) help in improving urban service delivery?

Considering the city government's inability to provide the necessary basic infrastructure services to its inhabitants, it is almost incumbent on

nongovernmental organizations of every description to assist in mitigating the plight of vulnerable population groups, in particular, the urban poor living in slums and squatter settlements. There are also community based organizations (CBOs) which aim primarily at improving their members' situation. As both NGOs and CBOs are close to the grassroots, they are more effective than governmental organizations in identifying real service needs and have more innovative, flexible and often cost-effective ways of meeting them. The Building Together Project in Bangkok, the Orangi Pilot Project in Karachi and Freedom to Build in Manila are examples of voluntary and private initiatives to improve housing, sanitation and environmental conditions of the inhabitants in question. In the same vein are the increasingly recognized economic and household roles that women can play in improving the well-being of low-income communities. Women's contributions have been particularly acknowledged in the environmental health and community development project in slums and shanties in Colombo.

#### **Who else can help in improving urban basic infrastructure services?**

Higher levels of government and international organizations can substantially assist. To begin with, state governments can decentralize responsibility, authority and resources to the city government to expand service provision. National governments can, as well, redesign the contributions of central and local governments in delivering urban services, demonstrate renewed political will to alleviate urban poverty and basic service deficiency through budgetary allocation and institutional restructuring and increase spending on human resources development for better service delivery. Regional institutions can likewise promote exchange of ideas, visits, experience and information through a program of training, conferences and research. At the same time, they can via pilot schemes or demonstration projects, disseminate new insights and technologies in building more humane communities. Finally, international organizations can assist in policy transformation to improve urban service delivery in conjunction with national governments, refocus efforts and resources on poverty alleviation, and broaden the range of activities in support of

anti-poverty goals.

#### **What is the best institutional and management arrangement to improve urban service delivery?**

While the authorities have been ineffective in providing infrastructure services in Asian cities and community-based groups have proven their value and usefulness in helping urban dwellers to help themselves, it must be stressed that government and community should not work at cross purposes or independently. Clearly, one group is not entirely successful on its own. Thus understanding, cooperation and mutual assistance should be promoted between the two. The Environmental Health and Community Development Project is an example of such cooperation, in which case, the Colombo city government and people themselves worked well together in a project to upgrade urban amenities. Another example of cooperation between government and private organizations in improving social services in that achieved in Bongchun dong, a large squatter area in Seoul, referred to earlier. It needs to be recognized that NGOs are by themselves poorly resourced and fragmented in orientation. Ultimately, only governments have the resources and authority to create conditions for full-scale grassroots mobilization.

#### **How relevant are environmental issues in urban service provision?**

In fact, the choice of shelter strategy, transport technology, waste disposal methods, source of water supply and energy choice all have vital bearings on the status of the urban environment and beyond. Of these basic urban services, energy choice, transport technology and water and sanitation are perhaps the most significant. The heavy dependence on burning coal in China for cooking and heating, especially in its northern areas, and the widespread use of the automobile relying on oil as carbon-based fuel in Asian cities are major sources of air pollution. They are directly responsible for the production of increasing amounts of carbon dioxide, methane, nitrous oxide, and chlorofluorocarbons (CFCs) — “greenhouse” gases — that have led to alarming warning changes in the earth's climate recently, with potentially disastrous and irreversible changes to the ecosystem of the world. Many countries' water bodies are

badly polluted, and urban water supplies are affected accordingly. Consequently, their planners and administrators ought to be more environmentally conscious of the decisions they make in choosing technology options in service provision.

### **What is the root cause in the increasing gap between the demand and supply of urban services?**

The increasing insufficiency of urban services being provided is the result of the much faster growth of population than the financial and other resources that could be marshalled to provide additional services. Quite plainly, therefore, the root cause of the problem lies in the concentration of people in the cities, leading to a situation of demand rapidly outstripping supply. Urban populations grow in general at twice the national populations growth rate, and population in low-income communities within Asian cities are commonly known to grow even faster than the overall urban population. Not surprisingly, as a result of rapid population growth in these communities, the gap in service provision tends to widen over time compared with other parts of the city. There is a need for formulating national urbanization policies, in which the roles, functions, and population distribution of different sized cities should be rationalized.

### **Bibliography**

- Angel, Shlomo. "Upgrading Slum Infrastructure: Divergent Objectives in Search of a Consensus". *Third World Planning Review*, Vol. 5, No. 1, 1983.
- Angel, Shlomo, *et al.* (eds.) *Land for Housing the Poor*. Singapore: Select Books, 1983.
- Angel, Shlomo, *et al.* "The Land and Housing Markets of Bangkok: Strategies for Public Sector Participation". Washington, D.C.: PADCO, 1987.
- Aquino, Rosemary M. "The Delivery of Basic Services in Three Selected Philippine Urban Centers: Implications for a Participatory Management Model". Manila: Integrated Research Center, De La Salle

- University, 1983 (mimeo).
- Brown, Lester R. and Jodi L. Jacobson. *The Future of Urbanization: Facing the Ecological and Economic Constraints*. Worldwatch Paper 77, Washington, D.C., 1987.
- Cassim, Jehan K., *et al.* "Development Councils for Participatory Urban Planning". *Assignment Children*, 57/58; pp.157-87, 1982.
- Chandler, William U. *Materials Recycling: The Virtue of Necessity*. Worldwatch Paper 55, Washington, D.C., 1983.
- Cheema, G. Shabbir. "The Extended Metropolis in Asia: Implications for Urban Management". Paper presented at the Conference on the Extended Metropolis in Asia, East-West Environment and Policy Institute, Honolulu, 1988.
- Datta, Abhijit. "Alternative Approaches to Shelter for the Urban Poor in India". *Cities*, 4(1); pp.35-42, 1987.
- Devas, Nick. "Indonesia's Kampung Improvement Program: An Evaluative Case Study". *Ekistics*, 48(286); pp.19-36, 1981.
- Diaz, Ralph. "Restructuring Services to Reach the Urban Poor in Kuala Lumpur". *Assignment Children*, 57/58; pp.135-56, 1982.
- Feibel, Charles and A.A. Walters. *Ownership and Efficiency in Urban Buses*. World Bank Staff Working Paper No. 371, Washington, D.C., 1980.
- Flavin, Christopher. *Electricity for a Developing World: New Directions*. Worldwatch Paper 70, Washington, D.C., 1986.
- Grimes, Orville F., Jr. *Housing for Low-Income Urban Families: Economics and Policy in the Developing World*. Baltimore: The Johns Hopkins University Press, 1976.
- Hosaka, M. (ed.) *Case Studies on Metropolitan Fringe Development with Focus on Informal Land Subdivision*. Summary Proceedings on UN-ESCAP Regional Workshop on Metropolitan Fringe Land Development, 6-10 June 1988, Bangkok, 1988.
- Laquian, Aprodicio A. *Basic Housing: Policies for Urban Sites and Services and Shelter in Developing Countries*. Ottawa: International Development Research Center, 1983.

- Lim, Hong Hai. "Nadi Integrated Social Services Programme, Kuala Lumpur". *Regional Development Dialogue*, 6(2); pp.123-47, 1985.
- Lim, Hong Hai. "Urban Service Provision in a Plural Society: Approaches in Malaysia". In D.A. Rondinelli and G.S. Cheema, *Urban Services in Developing Countries*. London: Macmillan, pp.125-46, 1988.
- Linn, Johannes F. "Urban Finances in Developing Countries". Roy Bahl (ed.), *Urban Government Finance Emerging Trends*. Beverly Hills: Sage Publications, pp.245-83, 1981.
- Linn, Johannes F. *Cities in the Developing World: Policies for Their Equitable and Efficient Growth*. New York: Oxford University Press, 1983.
- Mitra, Banashree C. "Impact of Tenure Regularization and Environmental Upgrading Programmes on Shelter Consideration in Squatter Settlements in Bhopal". *Indian Human Settlements Programme*, Research Report 13, Delhi, 1988.
- PADCO. *Guidelines for Formulating Projects to Benefit the Urban Poor in the Developing Countries*, Vol. 1. Washington, D.C., 1976.
- Payne, Geoffrey. *Informal Housing and Level Subdivision in Third World Cities: A Review of the Literature*. Center for Development and Environmental Planning, Oxford Polytechnic, 1989.
- Pendakur, V. Setty. *Urban Transport in ASEAN*. Research Notes and Discussion Paper 43. Singapore: Institute of Southeast Asian Studies, 1984.
- Pollock, Cynthia. *Mining Urban Wastes: The Potential in Recycling*. Worldwatch Paper 76, Washington, D.C., 1987.
- Pugh, Cedric. "The World Bank and Urban Shelter in Calcutta". *Cities*, 6(2); pp.103-18, 1989.
- Ramana, D.V. *An Overview of Environment and Development: Asia and the Pacific*. Bangkok: UNAPDI, 1980.
- Rondinelli, Dennis A. and G.S. Cheema (eds.). *Urban Services in Developing Countries: Public and Private Roles in Urban Development*. London: Macmillan, 1988.
- Soegijoko, Sugijanto. "Managing the Delivery of Urban Services for the

- Poor in Indonesia: Case Study of KIP in Bandung". *Regional Development Dialogue*, 6(2); pp.78-103, 1985.
- Taylor, John L. and David G. Williams. "Upgrading of Low-Income Residential Areas in Jakarta and Manila". John L. Taylor and David G. Williams, *Urban Planning Practice in Developing Countries*. Oxford: Pergamon, pp.239-58, 1982.
- United Nations Center for Human Settlements (UNCHS). *Survey of Slums and Squatter Settlements*. Dublin: Tycooly International, 1982.
- Wegelin, Emiel A. "New Approaches in Urban Service Delivery: A Comparison of Recent Experience in Selected Asian Countries". Discussion Paper. Center of Urban Studies and Urban Planning, University of Hong Kong, 1989.
- Whang, In-Joung. "Policy Issues in Managing Urban Services for the Poor: The Case of Squatter Improvement in Seoul, Republic of Korea". *Regional Development Dialogue*, 6(2); pp.14-22, 1985.
- Whang, In-Joung. "Social Services Programmes for the Poor in a Newly Industrializing Country: Experience in South Korea". Rondinelli and Cheema, *Urban Services in Developing Countries*, pp.147-74, 1988.
- Whitney, J.B.R. "The Waste Economy and Kotadesasi in China". Paper presented at the Conference on the Extended Metropolis in Asia, East-West Environment and Policy Institute, Honolulu, 1988.
- World Development Report (WDR)*. New York: Oxford University Press, 1988.
- World Development Report (WDR)*. New York: Oxford University, 1990.
- Yeung, Yue-man (ed.). *A Place to Live: More Effective Low-Cost Housing in Asia*. Ottawa: International Development Research Center, 1983.
- Yeung, Yue-man. "Provision of Urban Services in Asia: The Role of People-Based Mechanisms". *Regional Development Dialogue*, 6(2); pp.148-69, 1985.
- Yeung, Yue-man. "Livelihoods for the Urban Poor: Case for a Greater Role by Metropolitan Governments". *Regional Development Dialogue*, 9(4); pp.40-60, 1988.

Yeung, Yue-man and T.G. McGee (eds.). *Community Participation in Delivering Urban Services in Asia*. Ottawa: International Development Research Center, 1986.

Zhang, Fudao, *et al.* "Urban Solid Waste in China: Current Problems and Solutions". *Chinese Geography and Environment*, 2(1); pp.54-67, 1989.