

KAMPUNG IMPROVEMENT PROGRAMME
JAKARTA, INDONESIA
ONGOING SINCE 1969



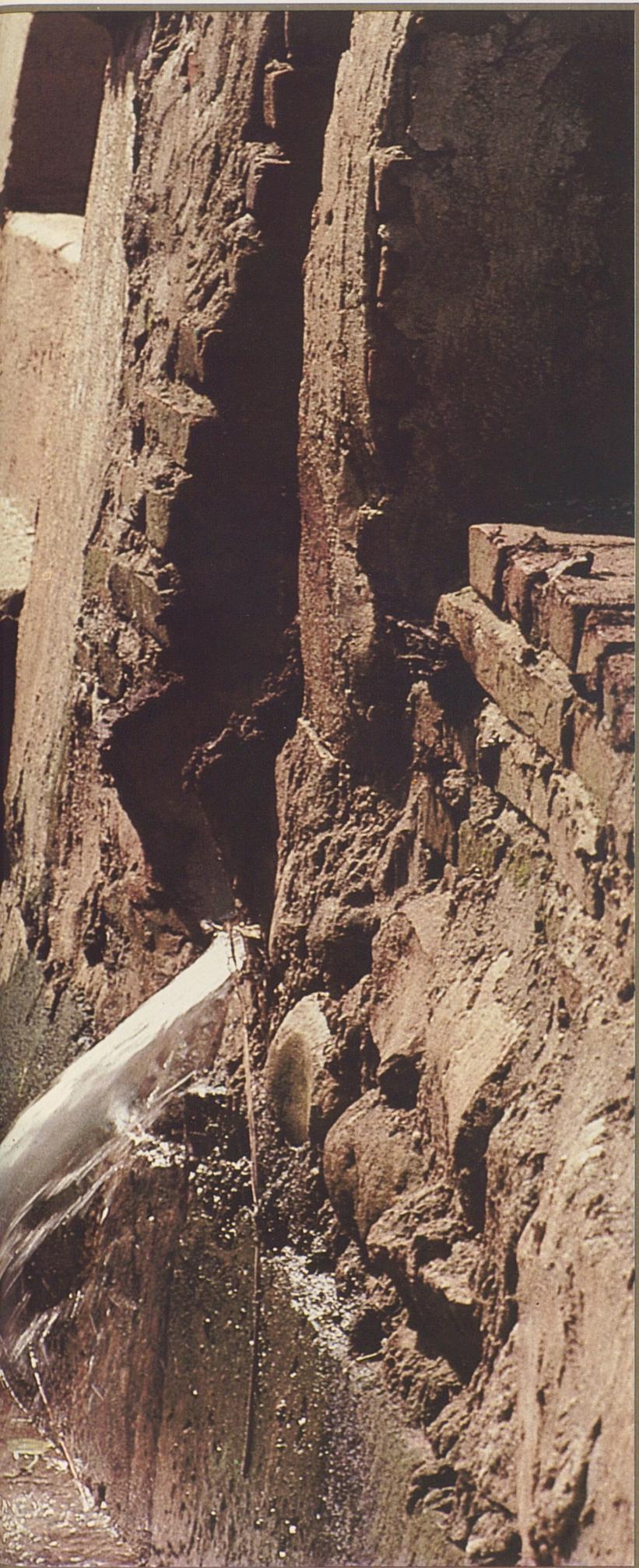




Aerial view. The Kampung Improvement Programme has created healthier urban environments by providing municipal services.



Secondary drainage channel. In Jakarta, building drainage systems are essential in turning squatter encampments into the formal urban fabric.

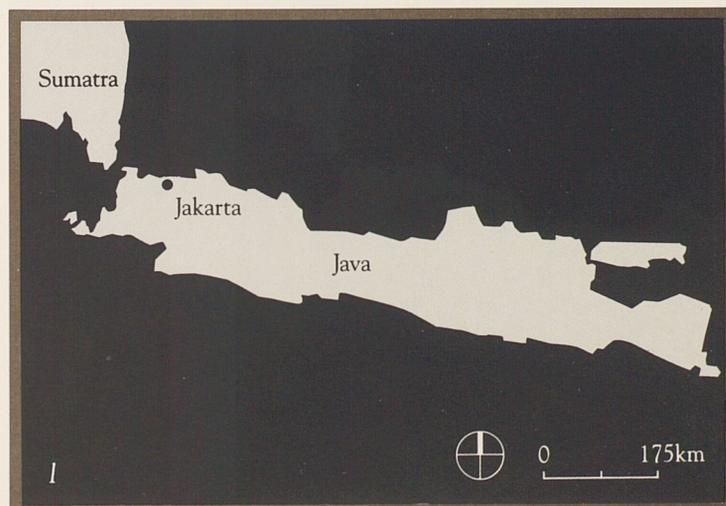


KAMPUNG IMPROVEMENT PROGRAMME. Client: Jakarta City Government, Ali Sadikin, Former Governor; Planners: K.I.P. Technical Unit, Mr. Darrundono, Chief; Pik Mulyadi, Vice Governor of Jakarta, former Head of Regional Planning Office; People of the Kampungns.¹

In 1969, under political pressure from the large and diverse kampung populace, the Jakarta city government initiated the Kampung Improvement Programme (K.I.P.). Stated simply, the programme's objective was to alleviate the extremely low standard of living endemic to all the city's kampung areas. Given the magnitude of the problem (approximately three million people were then living in unimproved kampungns covering 7200 hectares) and the limited financial resources available to address it (a development budget of about ten million U.S. dollars for 1969–70), a comprehensive yet inexpensive approach was imperative.

Jakarta's Kampungns. The history and development of Jakarta's kampungns are closely tied to the city's chronic shortage of low-cost housing. Like many primate cities in the developing world, Jakarta has long served as a magnet for rural migrants attracted to the city by the promise, whether real or imagined, of employment and an improved standard of living. The first large wave of unskilled and uneducated migrants swept the city during the 1950s and '60s in response to a booming construction industry—an industry supported heavily by a newly independent government anxious for its capital city to affect the appearance of a modern, progressive, twentieth-century metropolis with highways, public monuments, administrative offices, multistorey hotels, and a large sports complex.² Between 1961 and 1971 the city's population swelled from not quite three million to five million inhabitants.³ Though in part the result of natural increase, the larger portion of this population surge was directly attributable to migration, which accrued at an estimated rate of 89,200 people per year.⁴ Un-

1. *Jakarta, Indonesia.* Indonesia is the most populous Islamic country, with approximately eighty million Muslims. Jakarta is sited on a low-lying coastal plain, subject to regular flooding. Proper engineering can control health hazards and property damage associated with flooding.



able to find, much less afford, conventional housing in the private market, poor newcomers settled in unplanned, unserved, and overcrowded urban villages known as kampungs. By 1969 approximately seventy-five percent of Jakarta's total population lived in these settlements, which then covered sixty percent of the city's urbanised land area.⁵

The early migrants to the city would occupy land—abandoned rice paddies, marshes, or vacant lots—usually available for the taking, along the city's periphery and there build their own shelter. Semirural in nature, these kampungs were, nevertheless, located as close as possible to jobs in commercial, industrial, or residential sectors of Jakarta. Their desirable locations continued to attract new migrants, and over time the village-like, spontaneous settlements became congested urban slums. In the meantime, the planned city spread in leapfrog fashion southward from the low-lying areas along the coast to higher elevations and cooler temperatures and left many kampungs undisturbed, permanent enclaves within the expanding urban fabric. For these enclaves, planning controls did not exist. Open space was haphazardly subdivided into minute plots so that in some centre-city kampungs ninety percent and more of the available land was taken up by residential plots. Such practices, coupled with the prevailing low-rise character of building, created population densities as high as 700 to 1200 persons per hectare. The physical sum of this growth was a near-solid massing of one- and two-storey structures broken only by mazelike footpaths and waterways.

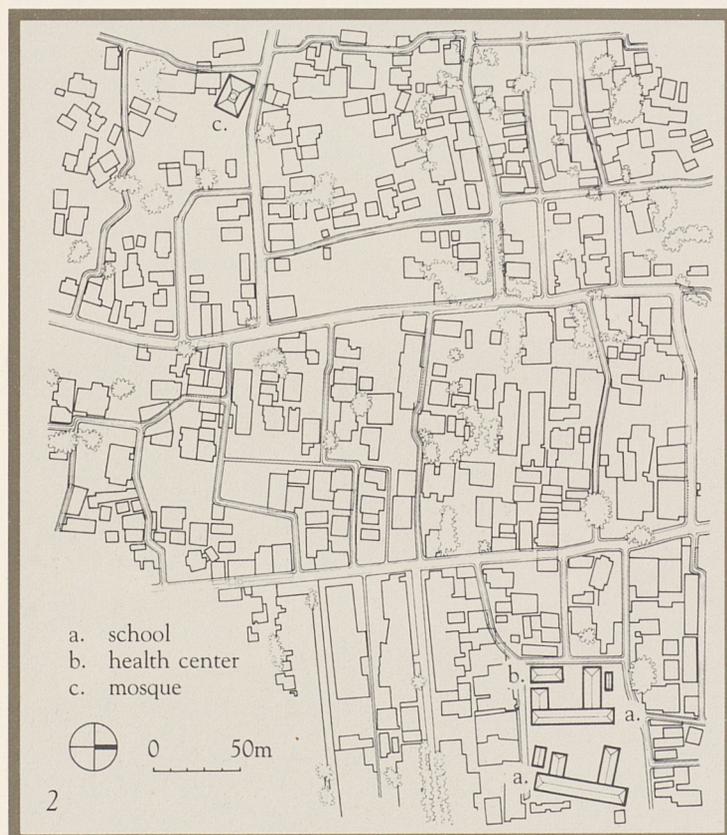
Housing Conditions. Housing conditions within Jakarta's kampungs are generally overcrowded, averaging two families of five members each per single dwelling, which consists of bamboo matted walls, tempered clay floors, and thatched roofs. Amenities such as electricity and indoor plumbing for water and sewage are virtually nonexistent. Yet kampungs are

dynamic communities, continuously in transition. This state is perhaps best exemplified by the use of and variation in construction materials from kampung to kampung. Such differences depend in large measure on settlement age and location, and on individual household income.

Older, more centrally located kampungs are often the densest (average plot size, 40–50 square metres), but exhibit a more varied, permanent housing stock than newer kampungs. Households earning above subsistence incomes typically invest in home improvements. Traditional rural building materials like bamboo and native woods are being replaced with urban ones such as masonry walls, cement or brick floors, glazed doors, and tile or corrugated iron roofs. By comparison, housing within the city's newer kampungs, those emerging along rail lines, roadways, and outlying areas, while less dense (average plot size, 160 square metres) is less varied. Very low household incomes prohibit expenditures for housing beyond the self-constructed, traditional mode. Temporary structures of bamboo and thatched grasses prevail. Also prevalent in these

2. *Detailed plan of an improved kampung.*

3, 4. *Before and after.* The success of the K.I.P. is immediately evident. Improved public streets and municipal services were the incentive for private property owners to improve their homes.



areas are more transient shelters constructed of cast-off building materials and found objects. Despite such overcrowded and substandard housing conditions, the need for shelter pales before the need for basic infrastructure to alleviate the intolerable environmental conditions of most kampungs.

Environmental Conditions. One important factor that contributed to keeping housing costs low in Jakarta's kampungs was the complete absence of water, sewer, and electrical infrastructure. Indeed, the very reason kampungs developed at all was their initial appeal as reservoirs of raw, vacant land, meaning roadways were unpaved and plots were unserved by the municipality. Under rural village densities, the lack of such infrastructure, in particular the lack of human- and solid-waste disposal facilities, posed few environmental or public-health hazards. Sufficient open space surrounded these early kampungs to absorb and dissipate the waste load generated.

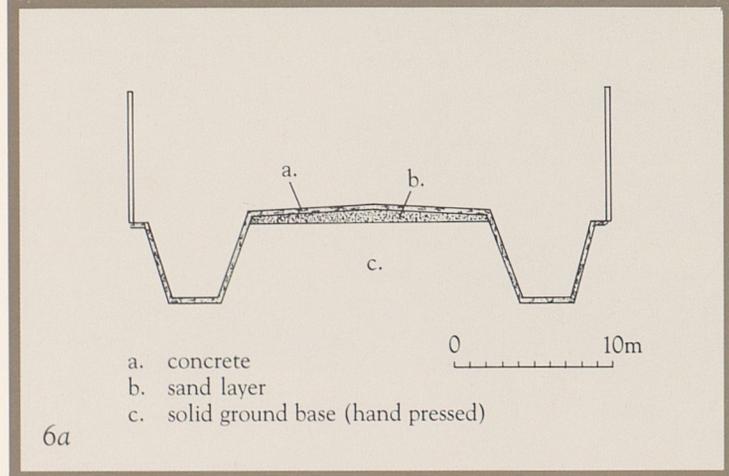
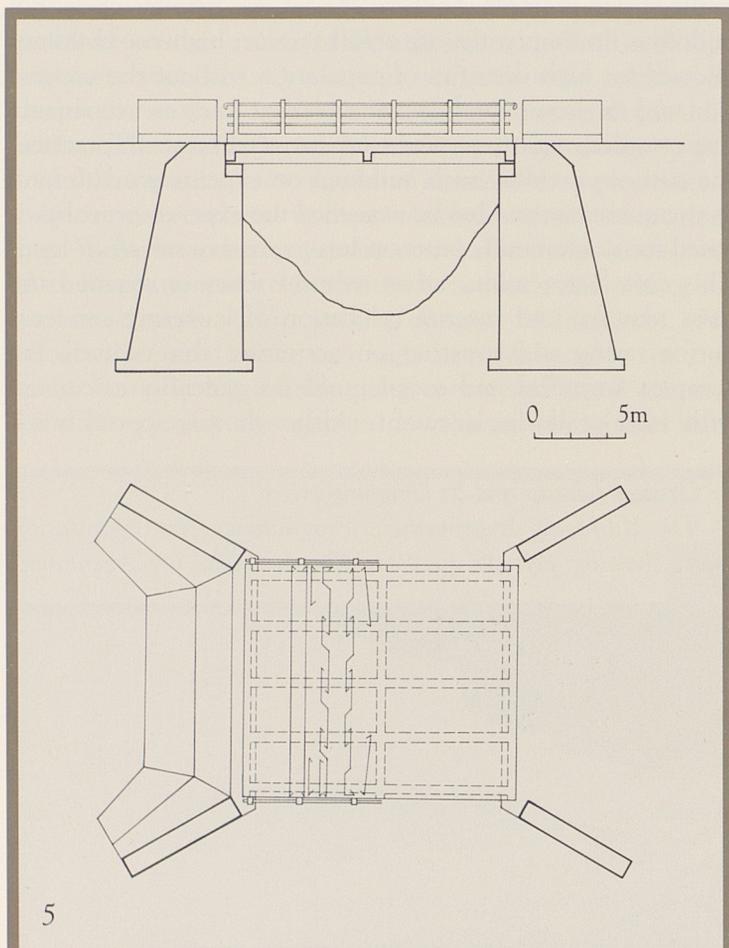
However, under heavily congested urban conditions with little or no open space, the lack of adequate sanitation facilities creates serious short- and long-term environmental degradation and health hazards.

Residents without access to private or communal lavatories or to pit privies frequently resort to nearby rivers and canals for defecation. These same waterways are also used for bathing and laundering, and in some instances as sources of drinking water. Since the city has no central, water-borne sewer system, those sanitary facilities that do exist empty their raw sewage directly into either roadside ditches or septic tanks. Improperly sized, sited, or maintained septic systems encourage seepages that often contaminate shallow groundwater wells and threaten underlying fresh-water aquifers. Since more than fifty percent of the city's population relies on groundwater wells for potable water, the longterm adverse consequences of aquifer pollution are considerable.

In tandem with the problem of sewage disposal is that of solid-waste collection and disposal. Like raw sewage, uncollected garbage makes its way to roadside drainage channels, canals, and rivers, where it accumulates and decays during the dry season (June through August) and exacerbates flooding during the rainy season.⁶ Unless cleared before the monsoon season (December through February), this debris clogs drainage ways and together with raw sewage is redeposited in adjacent low-lying areas. As a result of such sanitation deficiencies and subsequent flooding conditions, Indonesia claims one of the highest incidences of cholera in the world.⁷

The provision of potable water has been equally inadequate. Before the Kampung Improvement Programme was instituted, a 1969 survey of households revealed that sixty percent were without access to city-distributed, piped water. In

5. Pedestrian bridge with construction details below. Vehicular as well as pedestrian bridges were erected in designated communities. 6a. Section through typical footpath. Footpaths 1.5 metres wide were made of a sand base covered by a concrete surface. 6b. The paths, like the streets, are raised to the level of the houses, with drainage channels on either side that flow into open primary channels.



lieu of this service, residents are forced to obtain water from shallow, oftentimes contaminated wells; from street vendors at prices five times greater than that of piped water; or from area rivers and canals.⁸

Community Cohesion. In spite of basic infrastructure deficiencies and the resultant environmental degradation, kampungs remain socially stable communities, harbouring a diverse mix of income groups. Many kampung residents are middle-income government or trade and service sector workers who command modest though steady incomes. Even so, the scarcity and cost of available housing and the lack of any type of mortgage system precludes these households from relocating in more affluent areas.⁹ Instead they remain within the kampung community, and in doing so provide secondary employment for other, lower-income workers. Typically these workers serve their middle-income neighbours as building labourers, craftsmen, market vendors, hawkers, or transport carriers. This symbiotic relationship between middle- and lower-income households promotes social tolerance and community stability. Whether by choice or because of financial constraints, kampung residents are more likely to remain within their community and upgrade their present dwellings than move, thus accounting for the frequent juxtaposition of houses constructed of permanent materials immediately adjacent to haphazardly constructed shacks.

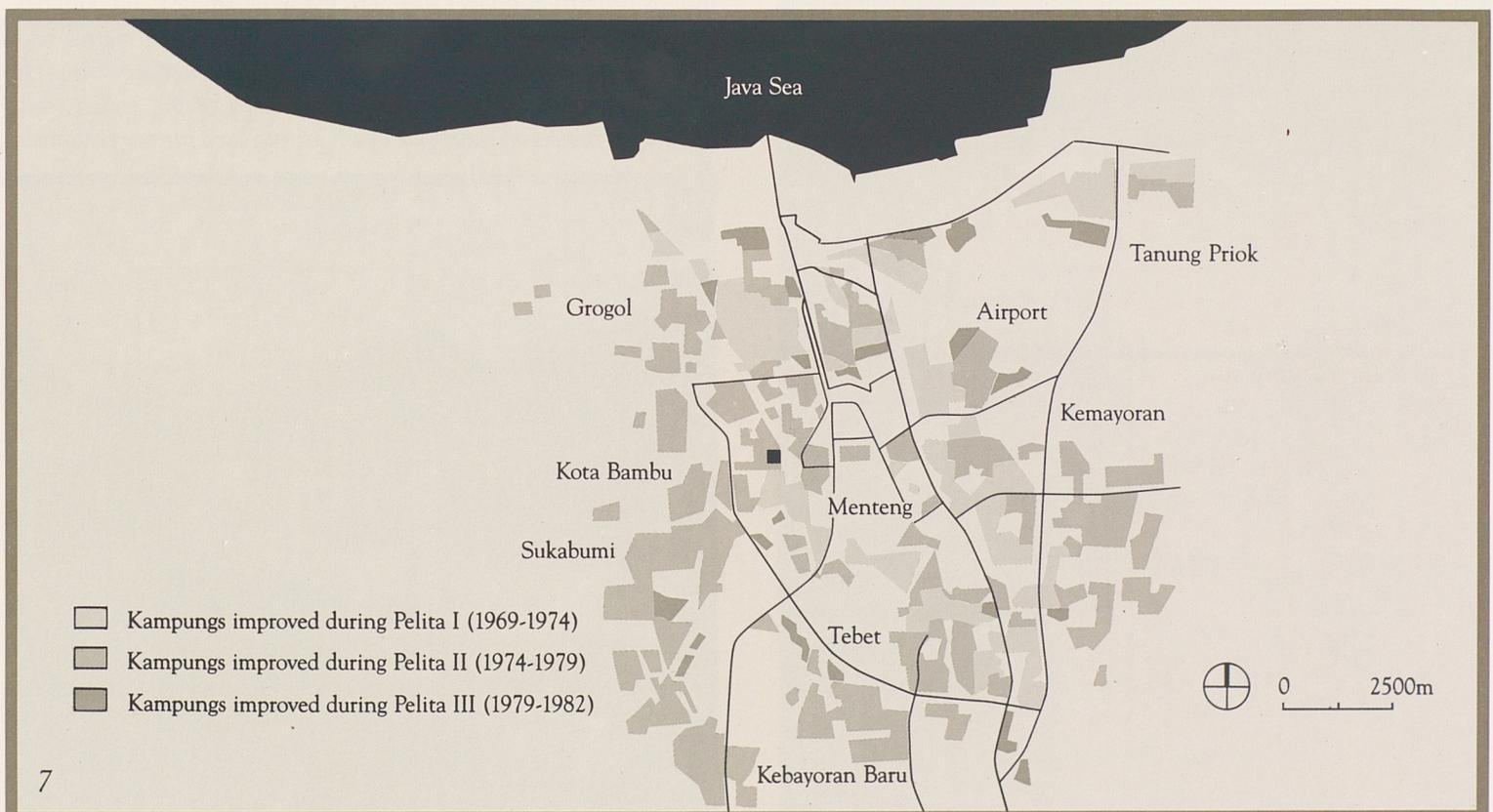
The Kampung Improvement Programme. Initially the city government entertained three alternative approaches to improvement. The first called for building new, single-family houses on relatively inexpensive land in the outlying areas of the city, an ambitious but fiscally irresponsible proposition. In light of the limited budget and the costs of providing complete housing units, this approach would produce only 4000 units annu-

ally, thus providing a mere thirteen percent of the projected number of units needed per year. To offset costs and increase volume this approach was to be modified through the institution of rent and mortgage collections. This latter notion was soon abandoned, however, when it was discovered that with average household incomes between ten and fifty dollars (U.S.) per month, the target population's ability to pay for such housing was limited at best. Also, it was reasoned that while this approach might lure some inner-city kampung residents to outlying areas, their numbers would be insufficient to make any appreciable difference in the congested conditions of existing kampungs. In effect this approach required all monies to be channeled into developing new residential areas in outlying regions at the expense of existing kampungs.

A second approach considered was modelled after the "urban renewal" concept of redevelopment. Under this suggestion the city government would acquire and rase existing kampungs and in their place construct new, multistorey residential buildings. In theory, the use of full-service, high-rise buildings allowed for high densities of population without the congestion and environmental degradation that so often accompany overcrowded, tightly packed, low-rise structures. In practice, the cost of providing such buildings on expensive urban land in the quantities needed far exceeded the expenditures anticipated for single-family units on less-expensive suburban land. This cost factor aside, urban-renewal schemes required the mass removal and interim relocation of kampung residents during rasing and construction activities, thus introducing complex logistical and social problems generally associated with large-scale displacement. Although this approach ad-

7. Greater Jakarta and its kampung areas.

8. The Kampung Improvement Programme. An organisation chart, showing agencies necessary for successful implementation.



ressed the problem of dealing with existing kampungs, its economic and social costs proved prohibitive.

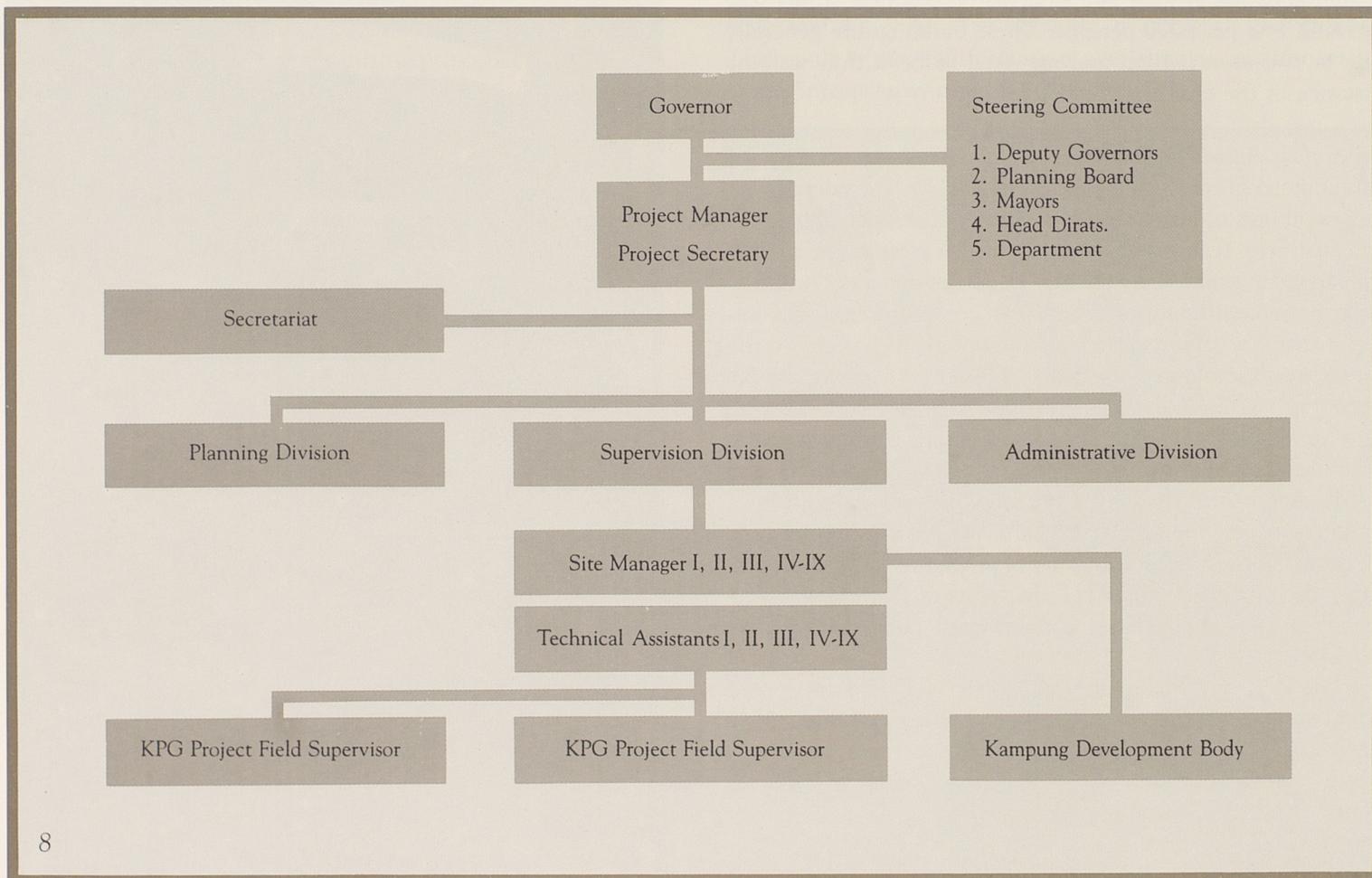
A less ambitious yet more fiscally and socially responsible solution evolved from the idea of "site and service." As the name implies, site and service schemes deal only with the provision of land and a minimum level of services; no attempt is made to provide complete houses. Instead government funds are used to acquire vacant land and develop it by the installation of basic infrastructure such as paved roadways, sanitary facilities, and public water taps. The provision of housing is then left solely to the imagination and financial resources of individual households. By eliminating construction costs, the government estimated it would be able to provide serviced plots to twice as many households as it could under the single-family approach.¹⁰ The genius of the K.I.P. was to adapt this approach to existing urban kampungs.

Because of the high cost and scarcity of raw urban land, site and service schemes, as described above, are typically restricted to outlying areas of the city where raw land is cheaper and more abundant. One serious, and sometimes overlooked, drawback to these schemes concerns locational considerations. The popularity of Jakarta's urban kampungs as preferred living areas is attributed as much to their proximity to employment centres as to their tolerance of low-income housing. Without access to private or reliable public transportation, kampung workers in the city's vast trade and service sectors must reside within walking distance of their jobs. This need is illustrated by the very high densities found in the city's more centrally located kampungs near established job markets. The programme began by developing solutions for infra-

structural needs of existing, centrally located kampungs.

The Kampung Improvement Programme came to recognise that, like housing conditions, existing infrastructure conditions vary from kampung to kampung. Thus the level and type of assistance provided was to be adjusted accordingly. Initially, however, design standards were uniform, determined on an areawide basis that assumed all kampungs are similar physically and therefore required the same level of upgrading. Thus, during the programme's first five years (1969–74), roadways, footpaths, sanitary facilities, and public water taps were provided according to a prescribed formula: 75 metres of paved roads and 132 metres of paved footpaths per hectare, one public toilet per 11 hectares, and one public water tap per four hectares. Difficulties with this approach were that it did not take into account pre-existing levels of infrastructure or user behaviour. As a result, certain facilities were duplicated while others were underutilised. A third problem involved the uneven distribution of improvements throughout the kampung. Given a fixed level of service per hectare, residences located along improved roadways or in close proximity to public water taps and sanitary facilities benefited more than those located farther away.

To counter this unevenness as well as account for infrastructure variations among kampungs and user behaviour, functional design standards were adopted, replacing predetermined and less flexible areawide standards. Functional design standards set minimum levels of infrastructure per household rather than per hectare. For example, roads are planned so that all dwellings are within 100 metres of a roadway capable of carrying emergency service vehicles. Similarly, all dwell-



ings must be within 20 metres of a paved footpath. Roadway size varies from 4 to 6 metres in width (depending on the anticipated traffic levels) and roads are constructed of sand and crushed stone with a binder course surface. Footpaths are 1.5 metres wide and made of a sand base covered by a concrete surface. All roadways and footpaths are flanked by secondary drainage channels which flow into open primary channels. When appropriate, fill material is used to raise all access routes above the prevailing flood level.

Functional standards for public water taps and sanitary facilities vary depending largely on local environmental conditions (i.e., proximity to and availability of potable shallow ground water, topography, soil characteristics, etc.). At a minimum all dwellings are to be within 125 metres of a public standpipe. Where feasible this level of service is increased to one tap per twenty to fifty families. Minimum public sanitary facilities are provided on the basis of one seat per twelve families. However, because of problems with land acquisition, maintenance, and social acceptance of communal toilet and bathing facilities, individual or multiple family pit privies are installed whenever possible. These are single bamboo enclosures positioned over soil pits where wastes are treated via anaerobic and aerobic bacterial decomposition.

Community facilities such as health centres and primary schools are provided according to population clusters. Health posts, two-room structures offering first-aid treatment and education in hygiene, nutrition, and family planning, are allocated at one per 3000 persons. Health clinics, larger structures that provide more comprehensive medical treatment, are distributed one per 30,000 persons. Primary schools, capable of accommodating at least 500 students on a double shift basis, are built one per 6000 persons. These buildings are generally one or two storeys high and are sited to be within walking distance of the children they serve.

Programme Administration. The K.I.P. is administered by the Muhammad Husin Thamrin Proyek (MHT), an independent technical unit of Jakarta's city government. Under Repelita I, the First Five-Year Development Plan, the programme was administered piecemeal by various departments. Poor interdepartmental coordination, resulting in contractor and scheduling conflicts, precipitated a fundamental change in the programme's implementation. In 1974, under Repelita II, the Second Five-Year Development Plan, the MHT was created as an umbrella organisation to consolidate and expedite programme administration. Although some elements of the K.I.P. such as the payment of contractors and acquisition of private property remained under individual department jurisdiction, the overall responsibility of programme execution became the charge of the MHT. In terms of management the approach is modelled after conventional public works programmes.¹¹

The functions and operations of the MHT are distributed among four divisions: administration, finance, planning, and supervision. These divisions coordinate, document, and monitor the progress of each improvement scheme as well as providing detailed physical planning assistance. All activities of the MHT are subject to approval by the Steering Committee. This committee, consisting of district mayors and various DKI

department heads, also oversees the selection and recommendation of kampungs for improvement. Final approval, however, rests with the governor.

Kampung Selection. Although occasionally selected in response to political pressure, kampungs are typically chosen for improvement under the K.I.P. according to their existing social, economic, and physical conditions as compared with established criteria. These criteria consider kampung age, density, household income, and prevailing environmental conditions, giving preference and priority to the oldest, densest, and poorest kampungs, which exhibit the worst environmental conditions. Nevertheless, some kampungs, by virtue of their location, are precluded from consideration. Kampungs located in areas considered unsuitable for permanent settlements because of unavoidable health and safety hazards (e.g., along canal and riverbanks, under high-voltage cables, or along railway lines) are classified as Never-To-Be-Improved. Also in this category are kampungs located in areas zoned for other use (industrial or green-belt areas) or on land belonging to private developers. Thus the K.I.P. is integrated into the city's larger and more comprehensive development plan.

9. In unimproved settlements, water is expensive.

10. Public washstand. Pure water for drinking and washing makes a major difference in the quality of life.



Implementation Procedures. Kampung selection is followed by programme implementation. The K.I.P. planning staff prepares a plan that outlines the type and location of proposed improvements based on specific infrastructural and social deficiencies. This plan is modified during discussion with the *camat* (subdistrict head) and *lurah* (urban village head), who represent the kampung community. The plan is then transformed into engineering drawings and tender documents and contracted out to local contractors. All planning and design work up to the tender documents stage is the responsibility of the K.I.P. planning division. All coordination with kampung residents is the responsibility of the *camat* and *lurah*.

Community Participation. When a kampung is selected for improvement, the *camat* within whose district the kampung is located is appointed site manager. In this capacity the *camat*'s chief responsibility is to act as a liaison between the K.I.P. technical staff and the residents of the host kampung. This responsibility is frequently shared with the *lurah*, and all negotiations regarding the selection of access routes and alternative sites for schools or health clinics are conducted through them. Although these representatives are not obligated to consult with anyone, they usually seek advice from unpaid community leaders who represent 400 households and unpaid neighbourhood leaders representing forty households prior to final plan approval. In turn these leaders may hold open meetings of the official village forum, where the proposal improvement plan and work schedule are discussed. Since the level of community involvement is a function of the *camat*'s discretion, it is highly variable. Community participation is essentially limited to removing or setting back buildings that obstruct proposed access routes; to maintaining the infrastructure, once provided; and to organising the collection of refuse from households.¹²

Programme Funding. Under Repelita I, the K.I.P. was funded by the city government at a cost of 15.6 million dollars (U.S.), or thirteen dollars per capita. Eighty-seven kampungs were improved under this programme, covering an area of 2400 hectares and affecting 1.2 million people.¹³ For Repelita II, the city acquired a World Bank Loan to cover approximately fifty percent of the K.I.P. budget, thus doubling the rate of kampung improvements from 500 hectares to almost 1000 hectares per year. Funding for this second phase totalled approximately \$125.3 million, or sixty dollars per capita.

No funds are collected in the form of a tax on improved kampungs. Instead residents are required to contribute, without compensation,¹⁴ those portions of their properties required for road widening and access routes. In addition, the village forum is expected to assume the maintenance costs of cleaning and repairing footpaths, drainage channels, lavatory facilities, and garbage-disposal facilities. These costs are paid out of voluntary community funds.

The K.I.P. as a Model. Cities in the contemporary Islamic world, like most cities in the Third World, are faced with providing suitable living environments for a burgeoning population. Housing built by government agencies has not been the most effective answer. It is too slow and too expensive and has never quite reached the lowest income groups. The K.I.P. is an alternate approach. It accepts squatter settlements rather than removing them. It emphasises urban amenities, not bricks and mortar. It is a concept which began within the city government of Jakarta; it has mobilised grass-roots organisations; it has provided an urban environment quickly and cheaply; and, what is more, it has developed management skills and administrative networks to continue the process. The result is the transformation over time of squatter settlements into prospering urban communities.

